

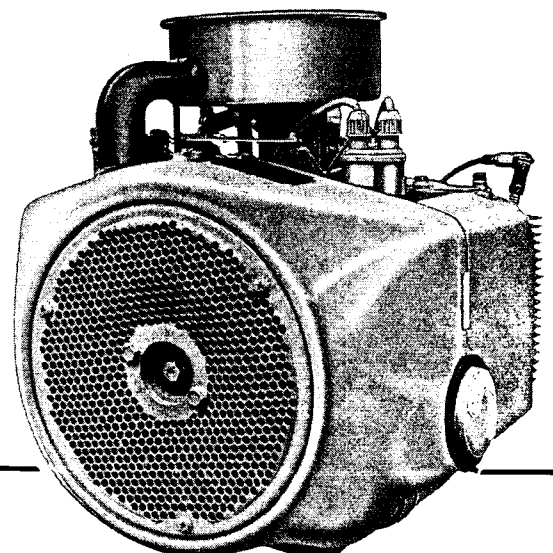
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Onan

Parts Manual

B48M-GA018
**Industrial
Engines**

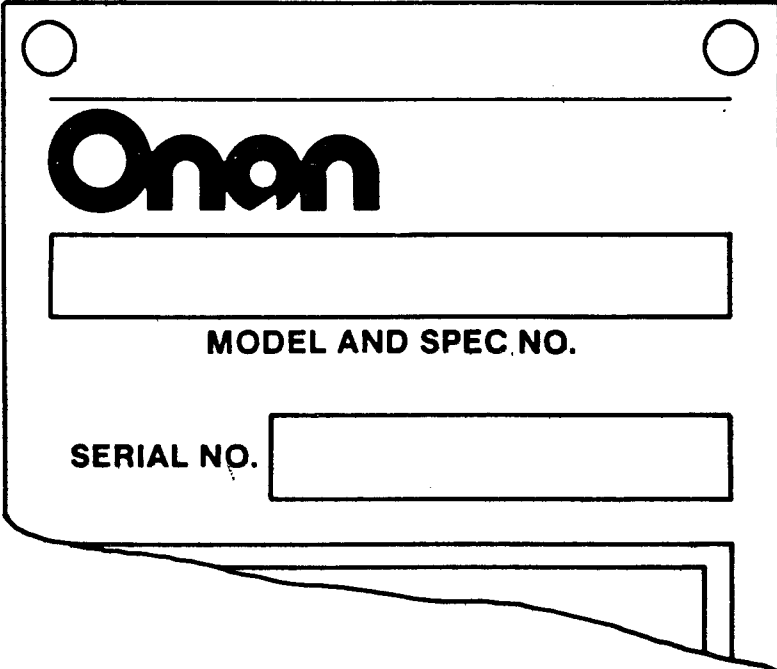


965-0255
11-88 (Spec A)
Replaces 8-85 (Spec A)
Designed in U.S.A.

General Information

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO. and SERIAL NO. from the Onan nameplate.

A rectangular form with rounded corners and two circular punch holes at the top. The Onan logo is prominently displayed in the upper left. Below the logo is a large rectangular box for the model and specification number. Further down, the text 'SERIAL NO.' is followed by a rectangular box for the serial number. The bottom right corner of the form is folded over, revealing a second identical form underneath.

Onan

MODEL AND SPEC NO.

SERIAL NO.

M-1149

For handy reference, insert "YOUR" nameplate information in the spaces above.

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Introduction

This catalog applies to the Standard B48M-GA018 Engines. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number in the parts list for that group. Parts illustrations are typical. Using the MODEL and SPEC NO. from the nameplate, select the **Parts** that apply to your engine. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left sides are determined by facing the blower end (front) of the engine.

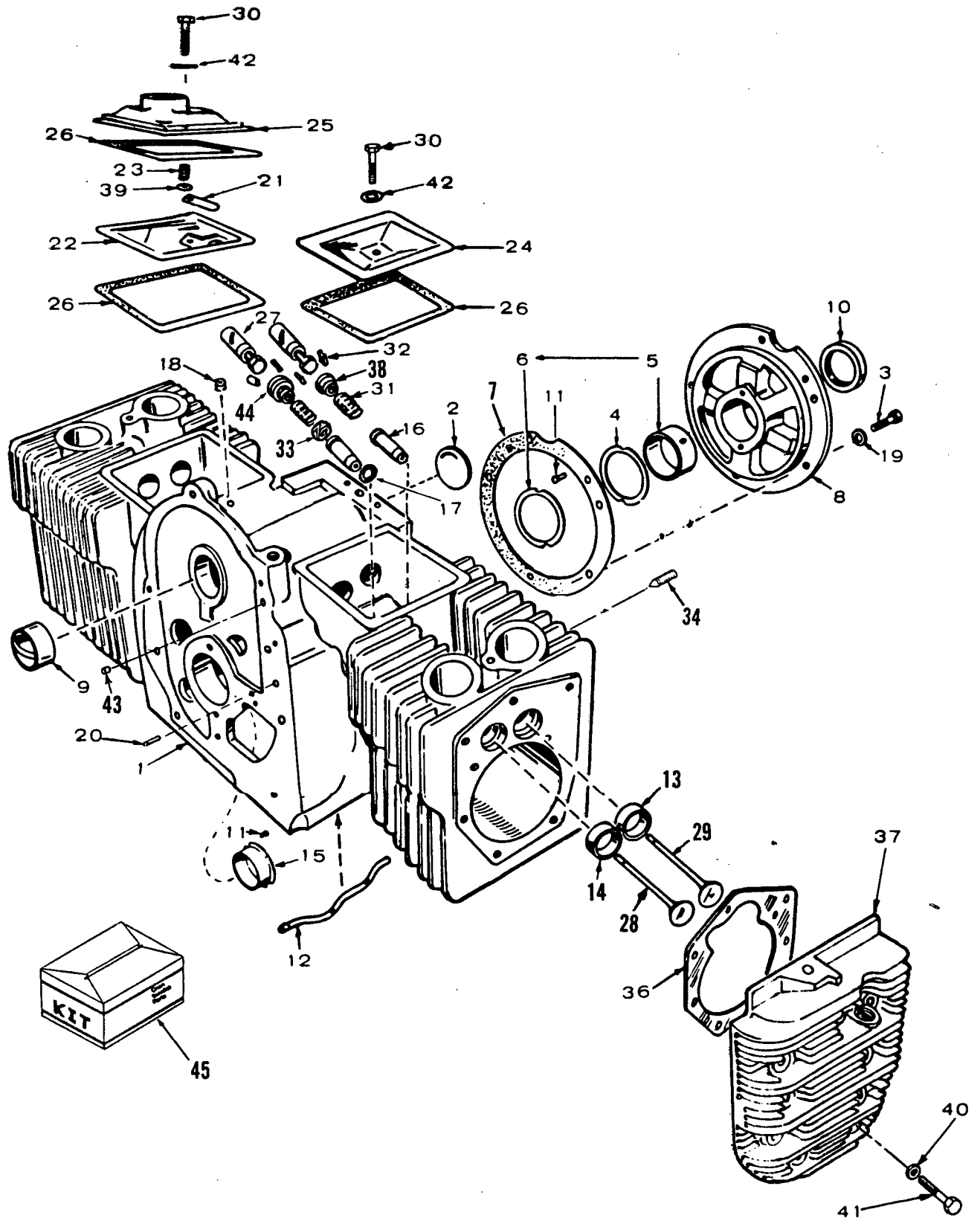
WARNING

This engine is not designed or intended for use in any type of aircraft. Use of this engine in aircraft may result in engine failure and cause serious bodily injury, death and/or property damage.

NOTICE !

Items referenced as optional indicate part is factory installed and may not be applicable to all models. For field conversions additional parts are usually required.

Cylinder Block

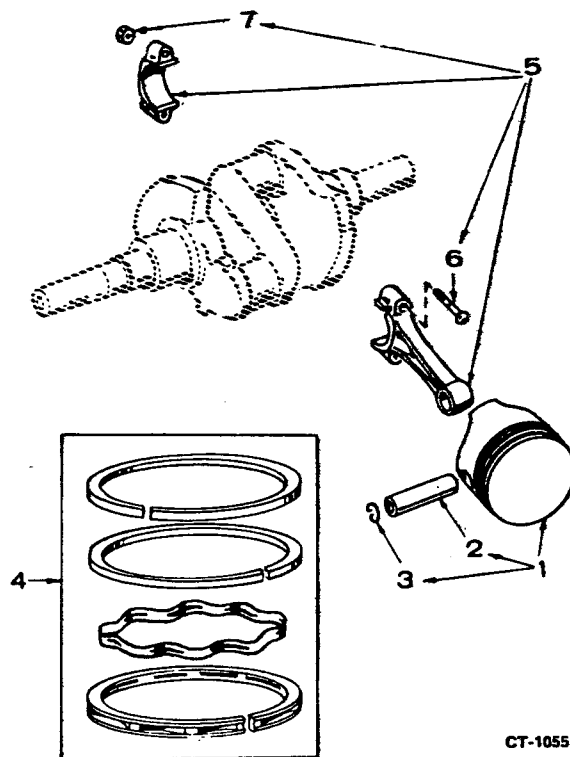


Cylinder Block

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Block Assembly, Cylinder (All Replacement Cylinder Block Assemblies Use Intake Valve Seals and Include Parts Marked *)	17	110-0068	2	*Gasket Intake Valve Guide Vacuum Port
	110-3148	1	Engines with Standard Rear Bearing Plate	18	149-1299	1	Tube - Early Models
	110-3151	1	Engines with 4 Boss Bearing Plate		517-0120	1	Plug, Breather Hole - Later Models
	110-3154	1	Engines with SAE A or SAE B Rear Bearing Plate (Does Not Include Rear Bearing Plate)	19	850-0050	5	*Washer, Lock - Spring (3/8")
2	517-0048	1	*Plug, Welch (1-5/8") Camshaft Opening	20	516-0141	2	*Pin, Gear Cover Alignment
3	800-0051	5	*Screw, Cap - Hex Head (3/8-16 x 1-1/4")	21	123-1175	1	Reed, Breather Valve
4	104-0776	AR	*Shim, Crankshaft End Play (.005")	22	123-1173	1	Baffle, Breather Valve
5			Bearing, Crankshaft - Rear (Includes Thrust Washer)	23	123-1174	1	Spring, Breather Valve
	101-0450	1	*Standard	24	110-1879	1	Cover, Valve - RH
	101-0450-02	1	.002" Undersize	25	110-2274	1	Cover, Valve - LH
	101-0450-10	1	.010" Undersize	26	110-1921	3	Gasket, Valve Cover
	101-0450-20	1	.020" Undersize	27			Tappet, Valve
	101-0450-30	1	.030" Undersize		115-0006	4	Standard
6	104-0575	2	*Washer, Thrust		115-0006-02	4	.002" Oversize
7	101-0415	1	*Gasket, Bearing Plate		115-0006-05	4	.005" Oversize
8			Plate, Bearing - Rear	28	110-2368	2	Valve, Intake
	101-0439	1	*Standard	29			Valve, Exhaust
	101-0551	1	Optional - 4 Boss		110-1955	2	Standard
	101-0430	1	Optional - SAE B		110-2438	2	Stellite
	101-0437-ol	1	Optional - SAE A	30	800-0010	2	Screw, Cap - Hex Head (1/4-20 x 1-3/4")
9	101-0405	2	*Bearing, Camshaft	31	110-0539	4	Spring, Valve
10	509-0041	1	Seal, Oil - Crankshaft Rear	32	110-0639	8	Lock, Valve Spring
11	516-0072	4	*Pin, Drive - Bearing Stop	33	509-0168	2	Seal, Valve - Intake (Optional)
12	120-0735	1	*Tube, Oil - Cylinder Block	34	803-0071	2	Screw, Socket - Set (3/8-16 x 5/8")
13			Insert, Valve Seat - Exhaust	36			Gasket, Cylinder Head
	110-1824	2	*Standard		110-2287	2	Standard
	110-1824-02	2	.002" Oversize		110-3181	2	Optional (Graphoil)
	110-1824-05	2	.005" Oversize	37			Head, Cylinder
	110-1824-10	2	.010" Oversize		110-2564	1	Right Side
	110-1824-25	2	.025" Oversize		110-2563	1	Left Side
14			Insert, Valve Seat - Intake	38	110-0904	4	Roto Cap - Valve
	110-0197	2	*Standard	39	526-0018	1	Washer, Flat (1/4" Screw)
	110-0197-02	2	.002" Oversize	40	526-0122	18	Washer, Flat (5/16" Screw)
	110-0197-05	2	.005" Oversize	41			Screw, Cap - Hex Head (Special 5/16-18 x 1-5/8")
	110-0197-10	2	.010" Oversize		800-0540	12	2" Long
	110-0197-25	2	.025" Oversize		800-0571	6	2" Long
15			Bearing, Crankshaft - Front Flanged	42	526-0063	2	Washer, Flat - Copper (1/4" Screw)
	101-0432	1	*Standard	43	517-0067	1	Plug, Core Hole <i>exhaust</i>
	101-0432-02	1	.002" Undersize	44	110-0893	2	Washer, Intake Valve Spring Retainer (Optional)
	101-0432-10	1	.010" Undersize	45			Kit, Gasket
	101-0432-20	1	.020" Undersize		168-0140	1	Valve Grind/Carbon Removal (Standard Head Gaskets)
	101-0432-30	1	.030" Undersize		168-0183	1	Valve Grind/Carbon Removal (Graphoil Head Gaskets)
16			Guide, Valve		168-0153	1	Gasket Kit, Complete (Standard Head Gaskets)
			Engines w/o Intake Valve Seals		168-0187	1	Gasket Kit, Complete (Graphoil Head Gaskets)
	110-1807	2	Intake				
	110-1807	2	Exhaust				
			Engines with Intake Valve Seals				
	110-1807	2	*Exhaust				
	110-3161	2	*Intake				

* - Parts Included in the Cylinder Block Assembly.

Piston and Rod



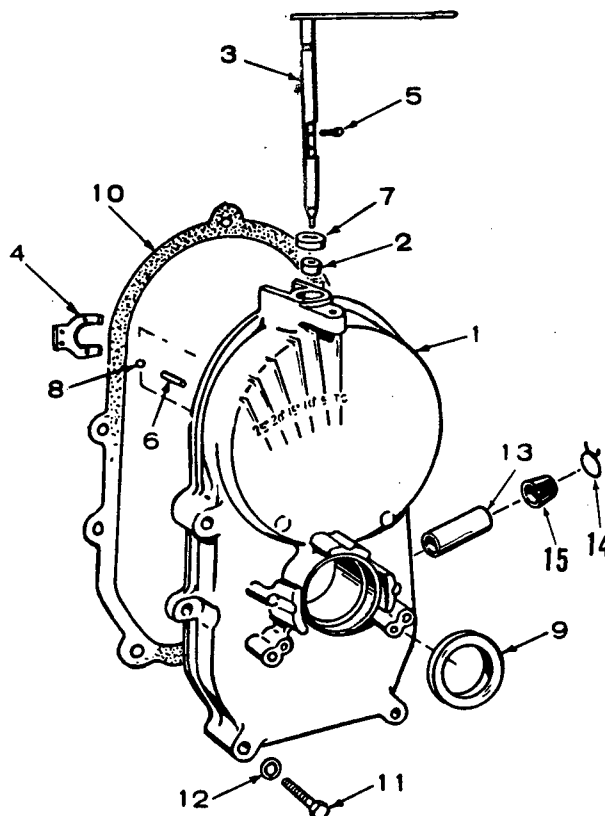
Piston & Rings Kit
new
112-0264
(Thin)

CT-1055

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Piston and Pin (Includes Retaining Rings)	5			Rod, Connecting (Includes Bolt and Nut)
112-0264	112-0186	2	Standard		114-0257	2	Standard
	112-0186-05	2	.005" Oversize		114-0257-10	2	.010" Undersize
	112-0186-10	2	.010" Oversize		114-0257-20	2	.020" Undersize
	112-0186-20	2	.020" Oversize		114-0257-30	2	.030" Undersize
	112-0186-30	2	.030" Oversize	6	114-0240	4	Bolt, Connecting Rod (Special)
	112-0186-40	2	.040" Oversize	7	870-0302	4	Nut, Hex - Crown Lock (5/16-24)
2	112-0229	2	Pin, Piston				
3	518-0311	4	Ring, Retaining				
4			Ring Set, Piston				
	113-0189	2	Standard				
	113-0189-05	2	.005" Oversize				
	113-0189-10	2	.010" Oversize				
	113-0189-20	2	.020" Oversize				
	113-0189-30	2	.030" Oversize				
	113-0189-40	2	.040" Oversize				

113-0310 Standard (new style) (Thin)

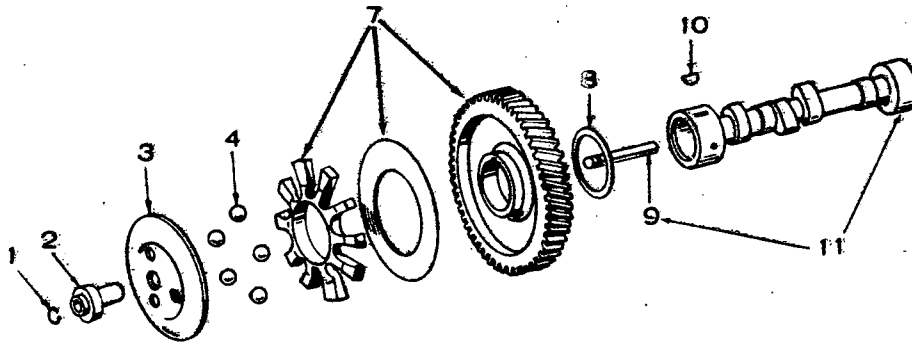
Gear 180



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	103-0738	1	Gearcase Assembly (Includes Parts Marked *)	9	509-0040	1	*Seal, Oil - Crankshaft
2	510-0105	1	*Bearing, Governor Shaft	10	103-0408	1	Gasket, Gearcase Mounting
3	150-1470	1	*Shaft and Arm, Governor	11	800-0032	4	Screw, Cap - Hex Head 5/16-18 x 1-3/4"
4	150-1187	1	*Yoke, Governor Shaft		800-0545	1	5/16-18 x 2-3/4" (Special)
5	815-0046	2	*Screw, Machine - Pan Head (#8-32 x 3/8")	12	526-0065	5	Washer, Flat - Copper (5/16" Screw)
6	516-0130	1	*Pin, Dowel - Governor Cup Stop	13	149-1299	1	*Tube, Vacuum Port
7	509-0008	1	*Seal, Oil - Governor Shaft	14	503-0301	1	*Clamp, Vacuum Port Cap
8	510-0014	1	*Ball, Bearing - Governor Shaft	15	149-1321	1	*Cap, Vacuum Port

* - Parts Included in 103-0738 Gearcase Assembly.

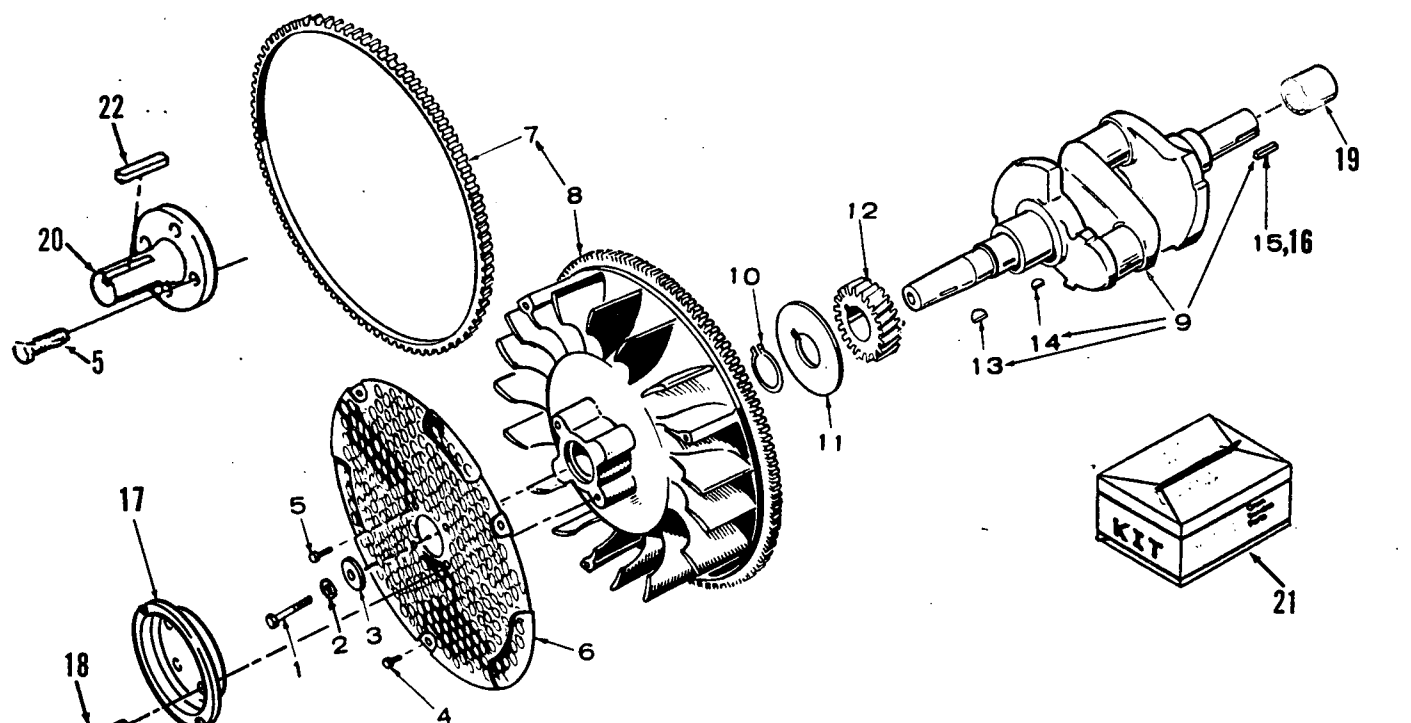
Camshaft



C-1084

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0078	1	Ring, Retaining	7	105-0332	1	Gear Assembly, Camshaft
2	150-1519	1	Hub, Governor Cup				(Includes Plate and Spacer)
3	150-1520	1	Cup, Governor	8	105-0541	1	Washer, Thrust (Special)
4			Ball, Governor	9	150-0875	1	Pin, Center
	510-0015	5	5 Ball Governor	10	515-0001	1	Key, Woodruff - Camshaft Gear
	510-0015	10	10 Ball Governor	11	105-0402	1	Camshaft (Includes Center Pin)

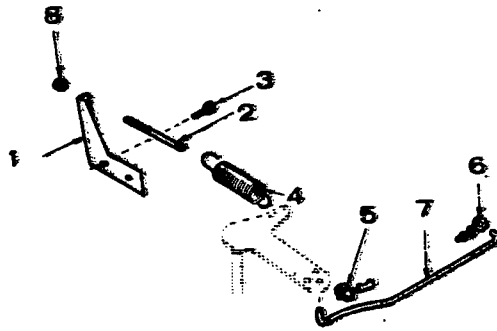
Crankshaft and Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	104-0170	1	Screw, Cap - Hex Head (Special)	10	518-0014	1	Ring, Retaining
2	850-0055	1	Washer, Lock - Spring (7/16")	11	104-0043	1	Washer, Gear Retaining (Special)
3	526-0017	1	Washer, Flat (7/16" Screw)	12	104-0032	1	Gear, Crankshaft
4	815-0400	3	Screw, Machine - Truss Head (1/4-20 x 1/2")	13	515-0227	1	*Key, Flywheel
5	821-0014	4	Screw, Cap - Hex Head Locking (5/16-18 x 1/2")	14	515-0001	1	*Key, Crankshaft Gear
6	134-3920	1	Guard, Flywheel	15	515-0103	1	*Key, Crankshaft Stub
7	104-0779	1	Gear, Ring	16	515-0198	1	Key, Crankshaft Stub
8	134-4734	1	Flywheel (Includes Ring Gear) With Imbalance Weight - Hi Flo (Identify by 1/2" Drilled Holes on Backside of Flywheel)	17	192-0398	1	Sheave, Rope - Engines with Magneto Ignition
	160-1301	1	Engines with Magneto Ignition - Electric Start - Hi Flo	18	821-0016	4	Screw, Cap - Hex Washer Head (5/16-18" x 3/4")
	160-1307	1	Engines with Magneto Ignition - Recoil Start - Hi Flo	19	190-0267	1	Bearing, Sleeve - Units with Clutch Housing
	104-0614	1	Clutch, Flywheel	20	190-0546	1	PTO Shaft - (2" Pilot) 1-7/16" Diameter
9			Crankshaft (Includes Parts Marked *)		190-0687	1	1" Diameter
	104-1351	1	1.125" Dia. Stub	21	190-0577	1	Kit, Shaft
	104-1353	1	1-7/16" Dia. Stub		541-0222	1	Front PTO, 1-7/16" Diameter
	104-1352	1	Use with Clutch Flywheel		515-0007	1	PTO, 1" Diameter
	104-1359	1	1.530" Dia. Stub				Key, Machine (1/4 x 2")
	104-1349	1	9 Tooth Spline				
	104-1028	1	1.626" Dia. Stub - Tapered (No Keys)				
	104-1348	1	1.125" Dia. Stub - Tapered				

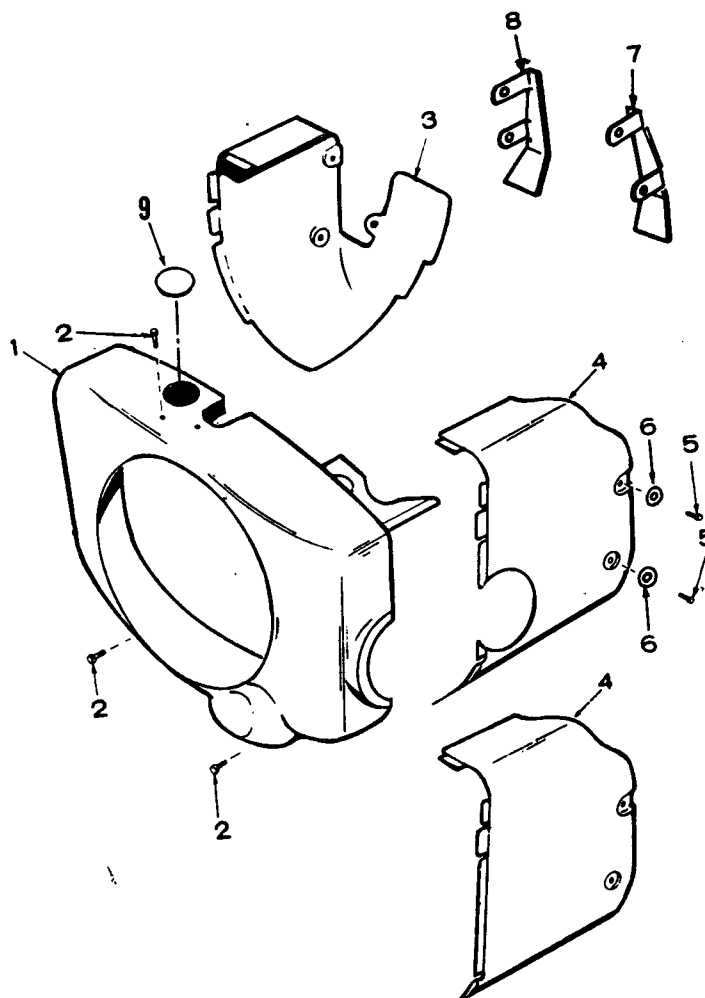
* - Parts Included in Crankshaft Kit.

Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-1433	1	Bracket, Governor Control	5	870-0278	1	Clip, Retaining - Control Rod
2	150-0694	1	Stud, Adjusting	6	518-0004	1	Clip, Retaining - Control Rod
3	821-0010	2	Screw, Cap Hex Head Locking (1/4-20 x 1/2")	7	150-1350	1	Rod, Control
4	150-1214	1	Spring, Governor	8	870-0131	1	Nut, Governor Adjusting

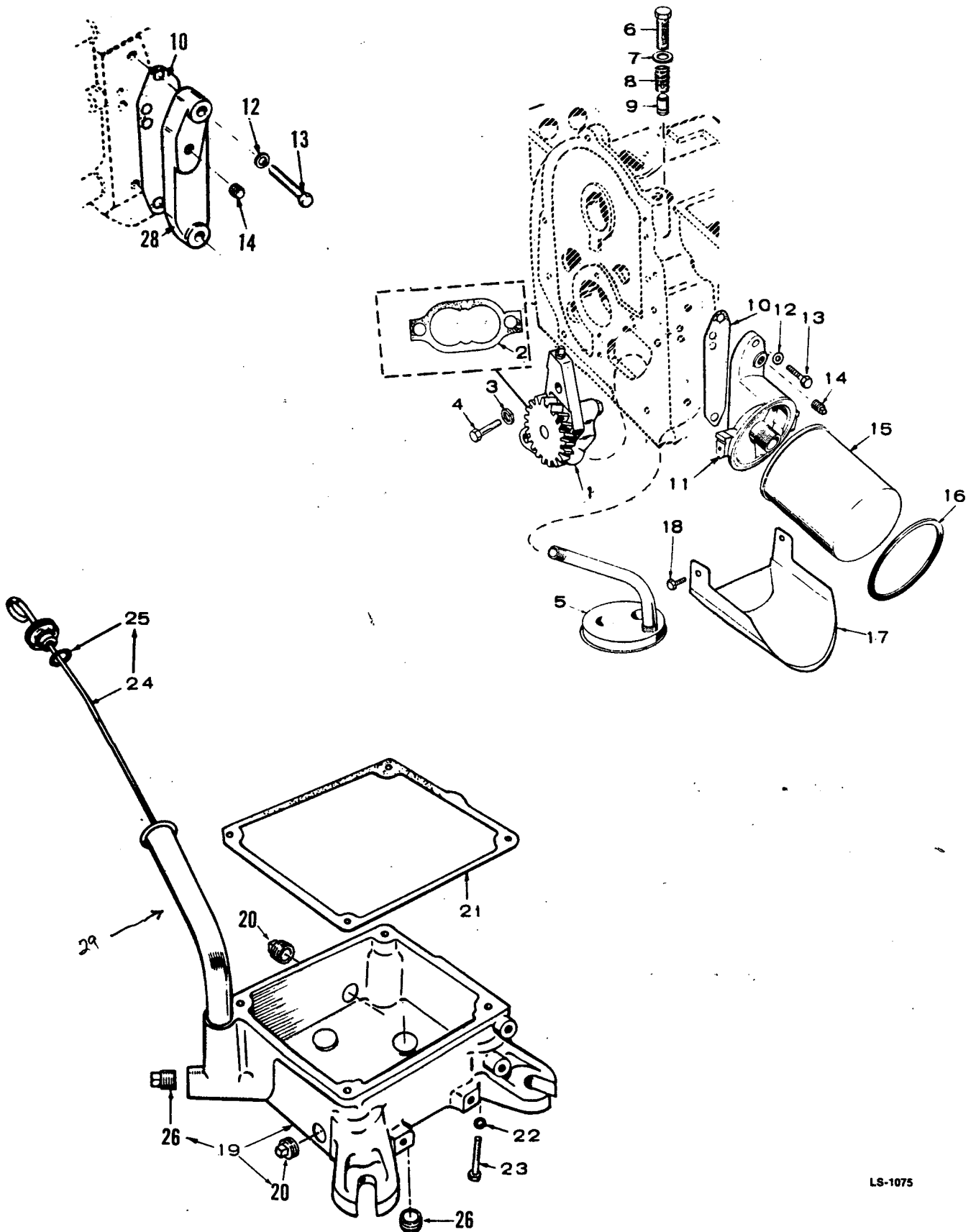
Air Housing



M-1463

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	134-3749	1	Housing, Blower	5	815-0290	4	Screw, Cap - Hex Head (1/4-20 x 5/8")
	134-4400	1	Sets Without Oil Filter	6	526-0021	4	Washer, Flat (1/4" Screw)
2	815-0261	3	Sets With Oil Filter	7	134-3582	1	Baffle, Cylinder Head - Right Side
3	134-4371	1	Screw, Cap - Hex Head (1/4-20 x 7/16")	8	134-3583	1	Baffle, Cylinder Head - Left Side
			Housing, Cylinder Air - Left Side	9	517-0129	1	Plug, Hole (Optional)
4			Housing, Cylinder Air (Right Side)				
	134-3400	1	Use Sets without Oil Filter - Free Flo				
	134-3518	1	Use Sets with Oil Filter - Free Flo				

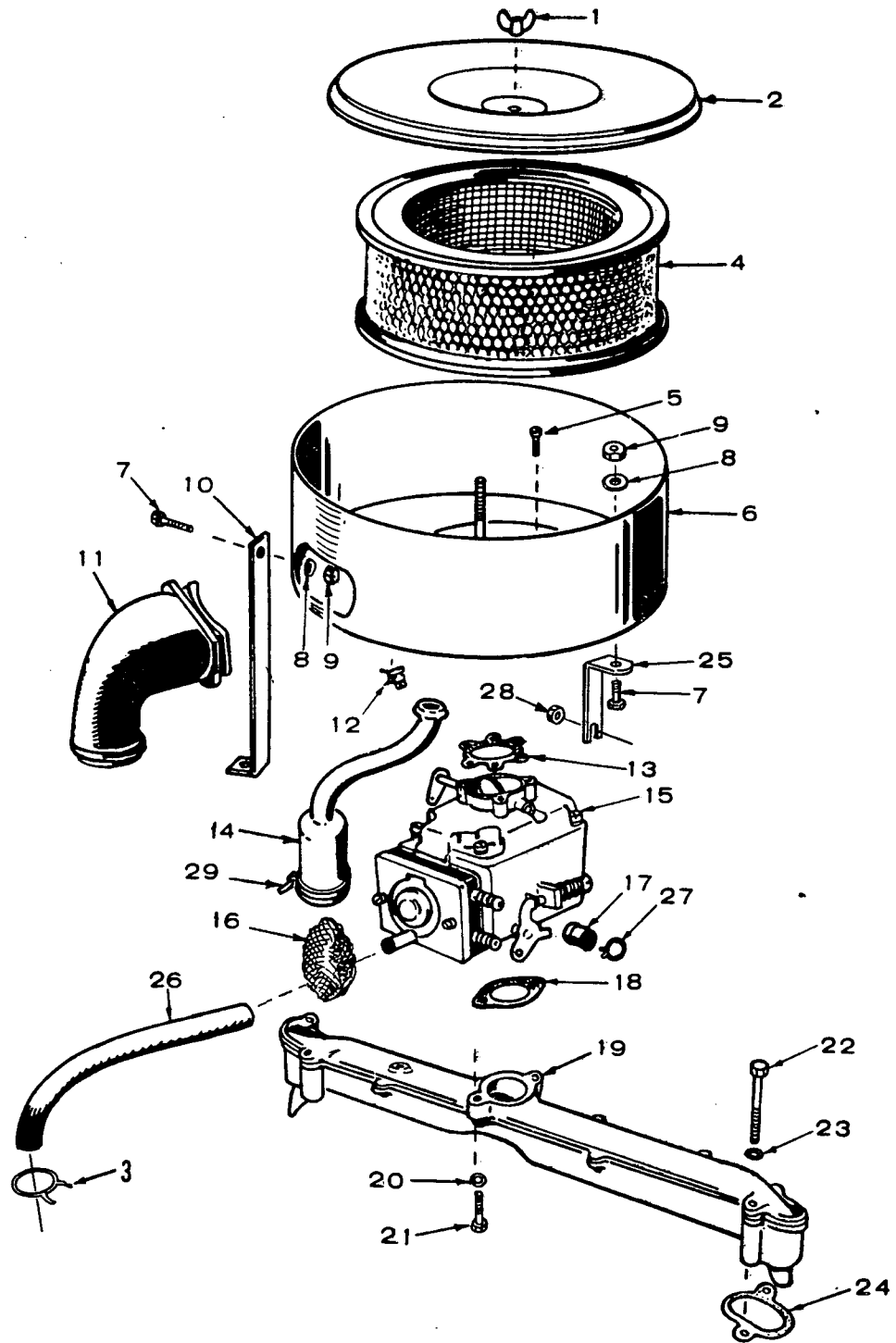
Oil System



Oil System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	120-0491	1	Pump, Oil (Components Not Sold Separately)	13	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
2	120-0161	1	Gasket Kit, Oil Pump	14	505-0057	1	Plug, Pipe
3	850-0040	2	Washer, Lock Spring (1/4")	15	122-0645	1	Filter, Oil
4	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")	16	122-0347	1	Seal, Air-Filter to Housing
5	120-0713	1	Cup, Intake - Oil Pump	17	122-0360	1	Drain, Oil Filter
6	801-0050	1	Screw, Cap - Hex Head (3/8-24 x 1")	18	815-0194	2	Screw, Cap - Hex Head w/ET (#10-32 x 3/8")
7	526-0066	1	Washer, Flat - Copper (3/8" Screw)	19	102-0850	1	Base, Oil
8	120-0140	1	Spring, Bypass Valve	20	505-0056	2	Plug, Pipe (1/2") Square Head - Oil Drain
9	120-0398	1	Plunger, Bypass Valve	21	102-1200	1	Gasket, Oil Base
10	122-0321	1	Gasket, Oil Filter Adapter Use with Adapter 122-0320	22	850-0050	4	Washer, Lock - Spring (3/8")
	122-0375	1	Use with Cover 122-0438	23	800-0056	4	Screw, Cap - Hex Head (3/8-16 x 2-1/2")
11	122-0320	1	Adapter, Oil Filter	24	123-1292	1	Cap and Indicator, Oil Fill
12	526-0065	2	Washer, Flat - Copper (5/16" Screw)	25	509-0142	1	Gasket, Oil Fill Cap ("O" Ring)
				26	505-0937	2	Plug, Socket Head (3/8")
				28	122-0438	1	Cover, Oil Filter Pad - Optional
				29	123-1191	1	oil Fill Tube

Fuel System

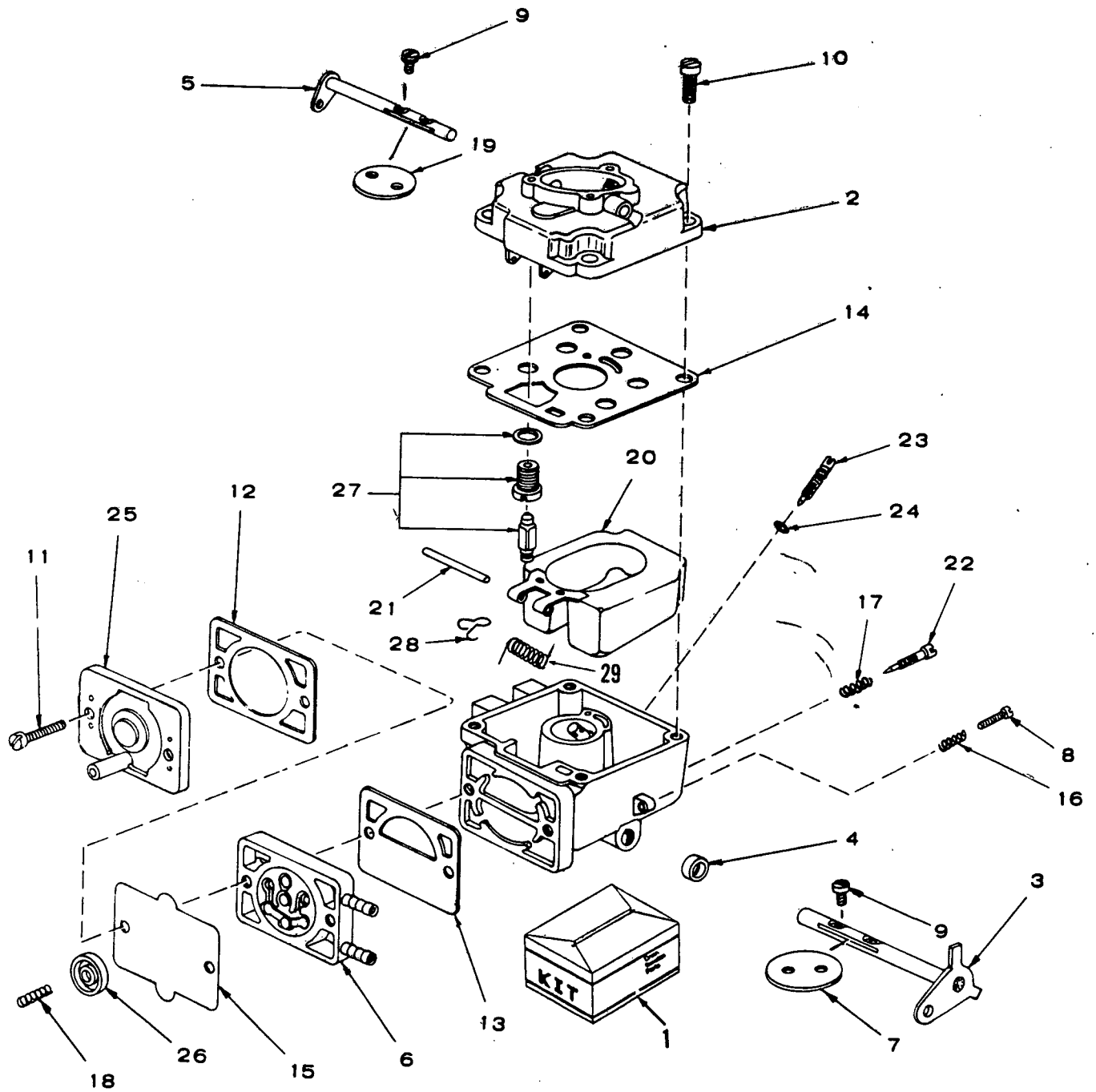


Fuel System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	865-0020	1	Nut, Wing (1/4-20)	16	123-1417	1	Filter, Breather Tube
2	140-1168	1	Cover, Air Cleaner	17	149-1321	1	Cap, Fuel Outlet
3	503-0731	2	Clamp, Hose (1/2")	18	145-0438	1	*Gasket, Carburetor Mounting
4	140-1216	1	Filter, Air (Paper)	19	154-2666	1	Manifold, Intake
5	815-0463	3	Screw, Machine - Slotted Head (#10-32 x 3/8")	20	850-0040	2	Washer, Lock - Spring (1/4")
6	140-1213	1	Housing, Air Cleaner	21	800-0023	2	Screw, Cap - Hex Head (1/4-20 x 1-3/8")
7	800-0003	2	Screw, Cap - Hex Head (1/4-20 x 1/2")	22	800-0033	4	Screw, Cap - Hex Head (5/16-18 x 2")
8	853-0013	3	Washer, Lock - ET (1/4")	23	850-0045	4	Washer, Lock - Spring (5/16")
9	862-0001	2	Nut, Hex (1/4-20)	24	154-1744	2	Gasket, Manifold to Block
10	140-1198	1	Support, Air Cleaner (4.4" Lg)	25	140-1313	1	Support, Air Cleaner - Front (2.37" Lg)
11	140-1549	1	Tube, Air Intake	26	503-0707	1	Hose, Fuel
12	518-0328	2	Clip, Cable	27	503-0301	1	*Clamp, Hose
13	140-1215	1	*Gasket, Air Cleaner to Carburetor	28	870-0257	1	Nut, Hex - Self-lock (5/16-18)
14	123-1277	1	Tube, Crankcase Breather	29	332-0941	1	Tie, Breather Tube
15	142-0660	1	Carburetor Assembly (See Separate Page for Components) (Includes Parts Marked *)				

* - Parts Included in 142-0660 Carburetor Kit Assembly.

Carburetor (With Integral Jet Pump) Components (142-0600)



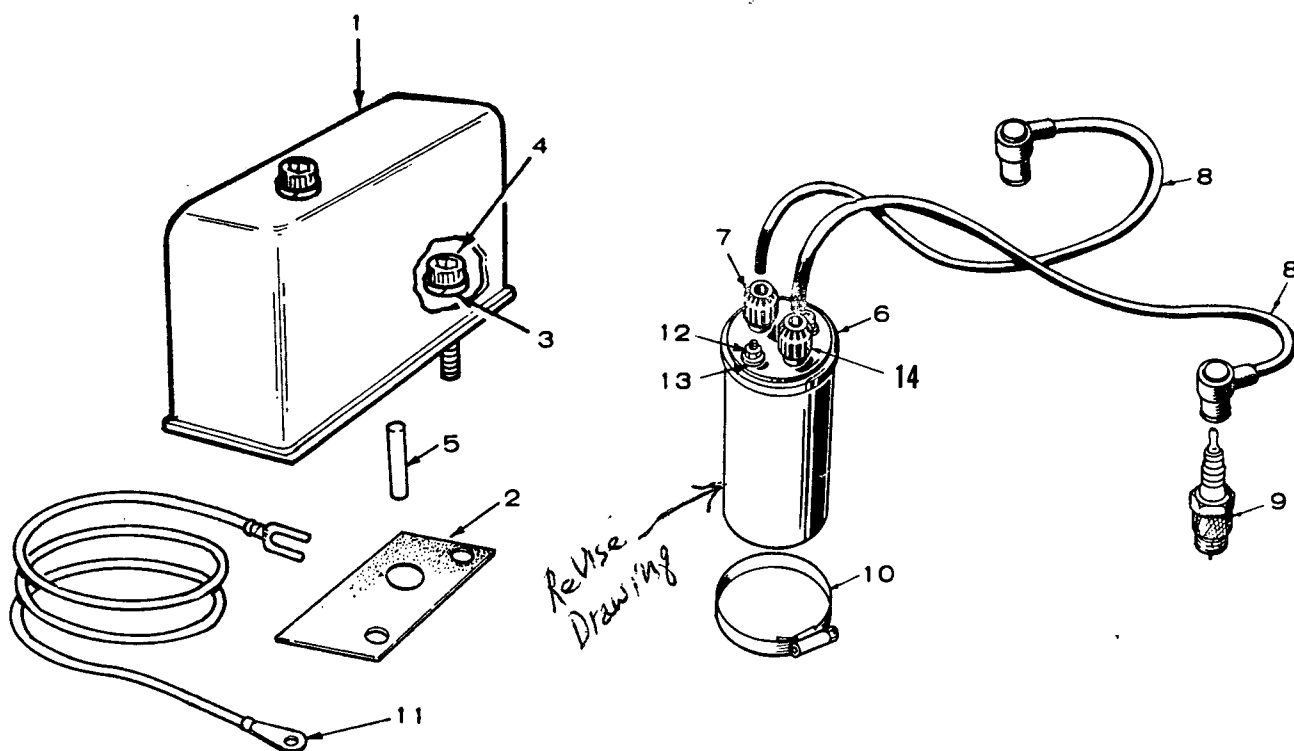
Carburetor (With Integral Fuel Pump) Components (142-0660)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	142-0660	1	Carburetor, Complete (With Integral Fuel Pump)	12	142-0541	1	†Gasket, Pump Cover
	142-0571	1	*Gasket Set (Includes Parts Marked †)	13	142-0542	1	†Gasket, Inlet Plate
- /	142-0570	1	Repair Kit (Includes Parts Marked *)	14	142-0572	1	†Gasket, Carburetor Body
		1	Body, Lower - Not Sold Separately	15	142-0555	1	†Diaphragm, Fuel Pump
2		1	Body, Upper - Not Sold Separately	16	142-0544	1	Spring, Throttle Stop
3	142-0534	1	*Shaft, Throttle	17	142-0282	1	*Spring, Idle Needle
4	142-0535	1	†"O" Ring, Throttle Shaft Seal	18	142-0545	1	*Spring, Fuel Pump
5	142-0536	1	Shaft, Choke	19	142-0546	1	Fly, Choke
6	142-0537	1	*Valve Assembly, Reed Fuel Pump	20	146-0380	1	Float Assembly (Includes Assist Spring)
7	142-0538	1	Fly, Throttle	21	142-0548	1	*Shaft, Float
8	142-0064	1	Screw, Throttle Stop	22	142-0016	1	*Needle, Idle
- 9	142-0334	4	*Screw, Fly to Shaft	23	142-0549	1	Needle, Power
10	142-0539	4	*Screw, Upper to Lower Body	24	142-0550	1	†"O" Ring, Seal - Power Needle
- 11	142-0540	2	Screw, Pump Cover to Body	25	142-0551	1	Cover, Pump
				26	142-0552	1	*Plate, Drive - Fuel Pump
				27	142-0553	1	*Valve, Assembly, Float
				28	142-0554	1	Clip, Retaining - Float Valve
				29	146-0379	1	Spring, Float Assist

† - Parts Included in 142-0571 Gasket Set.

* - Parts Included in 142-0570 Repair Kit.

Ignition

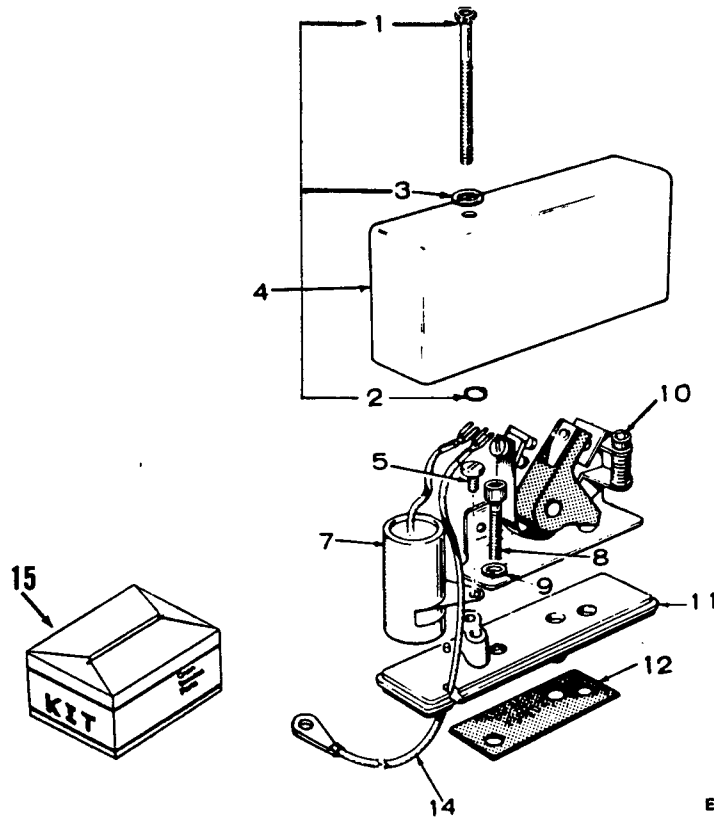


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	160-1303	1	Box Assembly, Breaker (See Separate Page for Components) (Includes Mounting Gasket)
2	160-1150	1	Gasket, Breaker Box Mounting
3	850-0038	2	Washer, Lock - Spring (1/4")
4	802-0034	2	Screw, Socket Head (1/4-20 x 3/4")
5	160-1151	1	Plunger, Breaker Points
6	166-0772	1	Coil, Ignition
7	166-0604	2	Cap, Coil Terminal (Part of Coil)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	167-1602	2	Cable, Spark Plug
9	167-0298	2	Plug, Spark
10	503-0311	1	Clamp, Coil
11	336-2378	1	Lead, Breaker Box to Coil
12	166-0554	2	Nut, Hex (Special)
13	850-2005	2	Washer, Lock - Spring (Metric)
14	166-0614	2	Bushing, Rubber (Inside of Cap 166-0604)

160-1376 1 Kit, Electronic
(converts Breaker
Ignition to Electronic)
PSB #556 (1/12)

Breaker Box

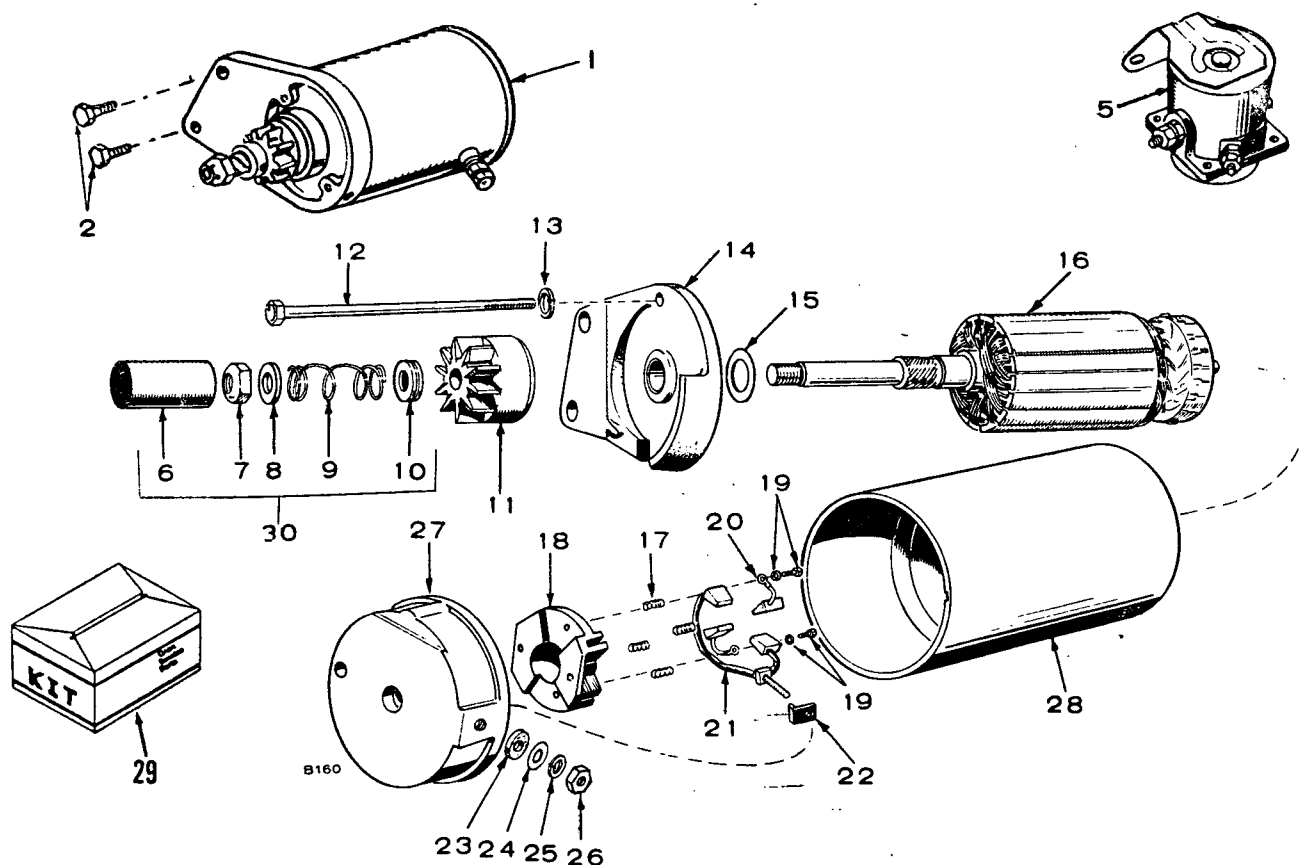


ES-1217

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	160-1303	1	Box, Breaker (Includes Parts Marked *)	8	802-0034	2	*Screw, Cap - Socket Head (1/4-20 x 3/4")
1	802-0022	1	*Screw, Cap - Hex Socket (#10-24 x 1-1/2")	9	850-0040	2	*Washer, Lock (1/4")
2	509-0065	1	*Retainer ("O" Ring)	10	160-1183	1	*Point Set, Breaker
3	526-0008	1	*Washer, Flat (#10 Screw)	11	160-1219	1	*Base, Breaker
4	160-1285	1	*Cover, Breaker Box	12	160-1150	1	*Gasket, Breaker Box
5	815-0358	1	*Screw, Cap - Slotted (#8-32 x 5/16")	14	336-2378	1	Lead, Breaker Box to Coil
7	312-0246	1	*Condenser	15	160-1211	1	Tune Up Kit (Includes Point and Condenser)

* - Parts Included in 160-1303 Breaker Box.

Starter Motor Components (191-0933)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-0933	1	Motor, Starter (Complete)	19	§	2	†Screw and Lock Washer
2	815-0570	2	Screw, Cap - Hex Washer Head (5/16-18 x 1")	20	—	2	†*Brush, Ground
5	307-1031	1	Relay, Start Solenoid	21	§	1	†*Stud and Brush Assembly, Input
6	§	1	#Cover, Dust	22	§	1	†Bushing, Insulation - Input Stud
7	§	1	#Nut, Stop	23	§	1	†Washer, Insulation - Input Stud
8	§	1	#Washer, Stop Nut	24	§	1	†Washer, Flat - Input Stud
9	§	1	#Spring, Anti-Drift	25	§	1	†Washer, Lock - Input Stud
10	§	1	#Spacer, Dust Cover	26	§	1	†Nut, Securing - Input Stud
11	191-1036	1	Drive Assembly	27	191-1040	1	Cap Assembly, Commutator (Includes Parts Marked †)
12	191-1048	2	Screw, Cap - Hex Head	28	§	1	Housing, Starter Motor
13	850-0040	2	Washer, Lock - Spring (1/4")	29	191-1041	1	Repair Kit, Brush, Spring and Stud (Includes Parts Marked *)
14	191-1037	1	Cap Assembly, Drive End	30	191-1359	1	Dust Cover Assembly (Includes Parts Marked #)
15	191-1038	1	Washer, Armature Thrust				
16	191-1039	1	Armature				
17	§	4	†*Spring, Brush				
18	§	1	†Brush Holder				

† - Parts Included in 191-1040 Cap Assembly.

* - Parts Included in 191-1041 Brush, Spring, and Stud Kit.

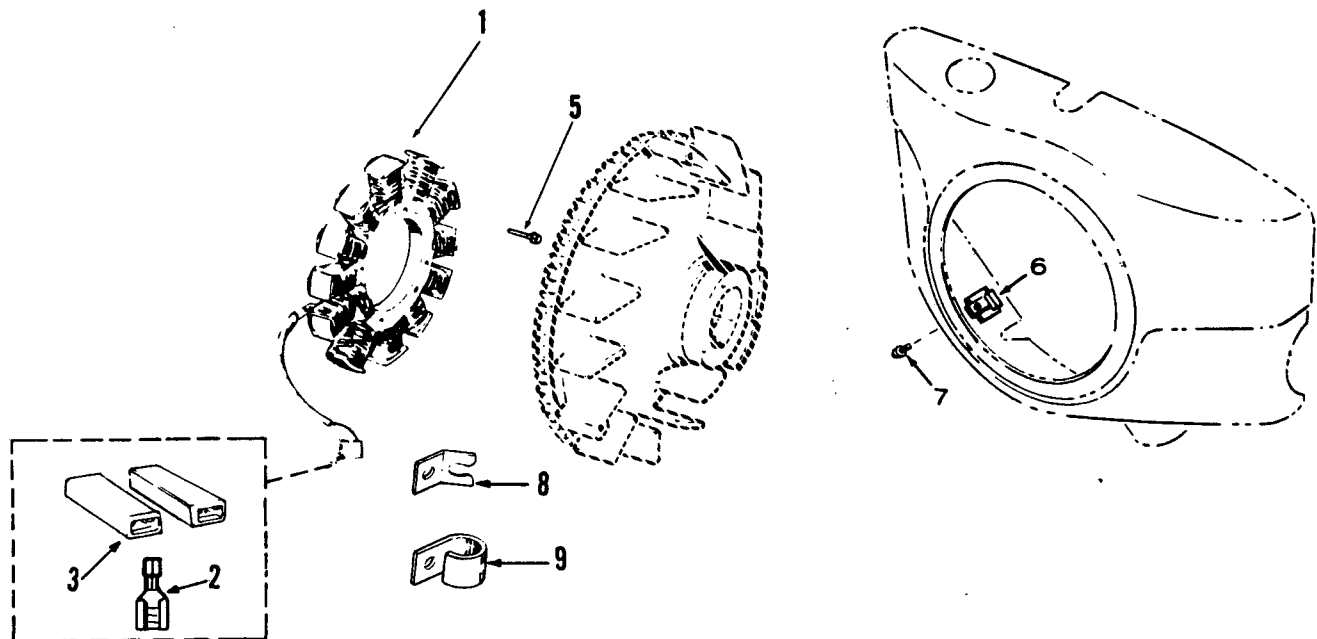
- Included in the 191-1359 Dust Cover Assembly.

§ - Not Sold Separately.

OPTIONAL EQUIPMENT SECTION

This section contains illustrated parts listing of factory installed options for these industrial engines. Options may not be applicable to all models; for field conversions additional parts are usually required. Optional parts listed in this section are in addition or in place of those shown in the standard engine parts section.

Option 1
Flywheel Alternator - 20 Ampere (Phelon)

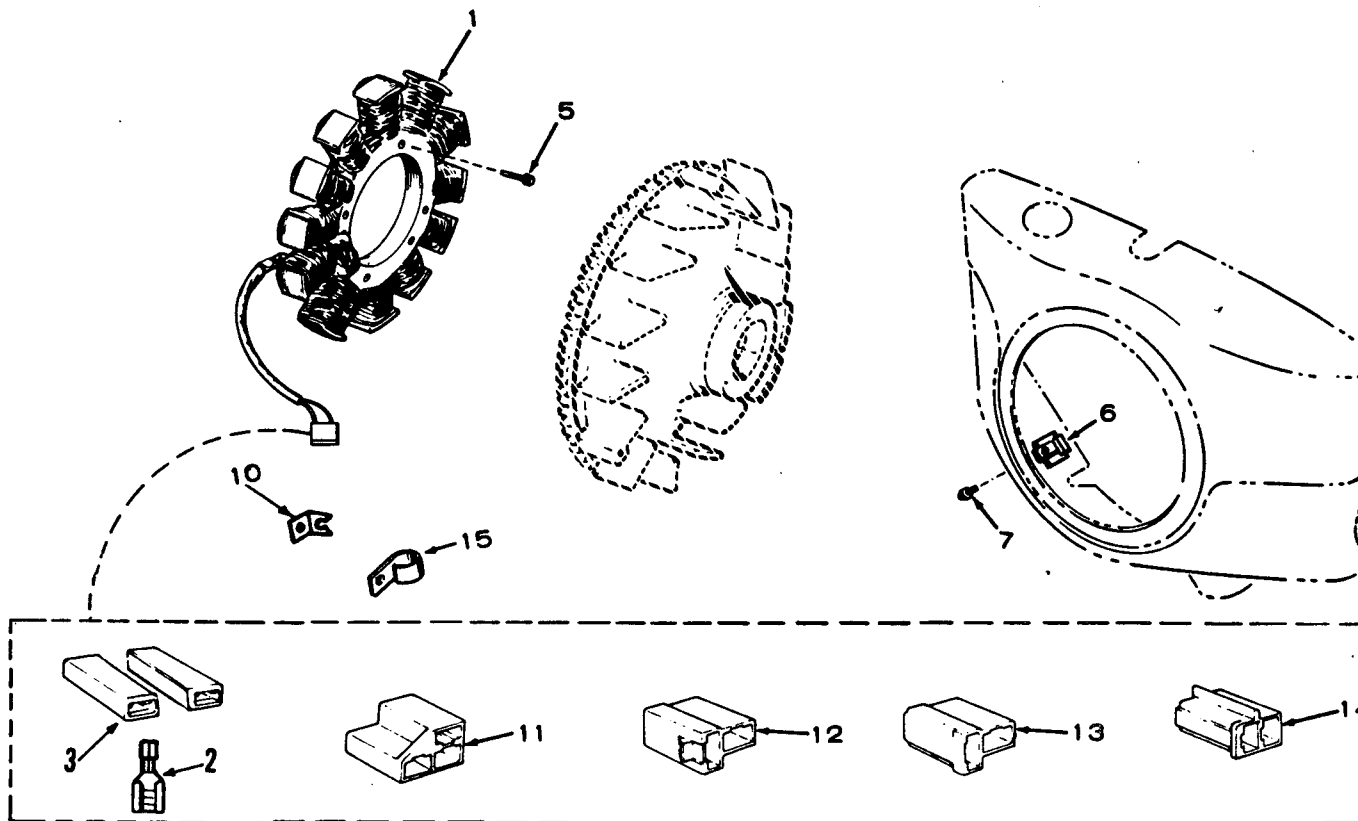


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1276	1	Stator (Includes Terminals and Connector Bodies)
2	332-2423	2	*Terminal, Stator Leads
3	323-1257	2	Kit, Body Terminal Connector (Includes Parts Marked *)
5	815-0470	3	Screw, Machine - Hex Head - Self Lock (#10-32 x 1-1/2")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	191-1748 <i>SPS 191-2221</i>	1	Regulator, Voltage
7	821-0007	1	Screw, Cap - Hex Washer Head (1/4-20 x 1/4")
8	167-0188	1	Clip, Cable
9	332-2319	1	Clamp, Wire - Alternator Leads

* - Parts Included in 323-1257 Alternator Connector Body Kit.

Opti 1 2
Flywheel Alternator - 15 Ampere (Phelon)

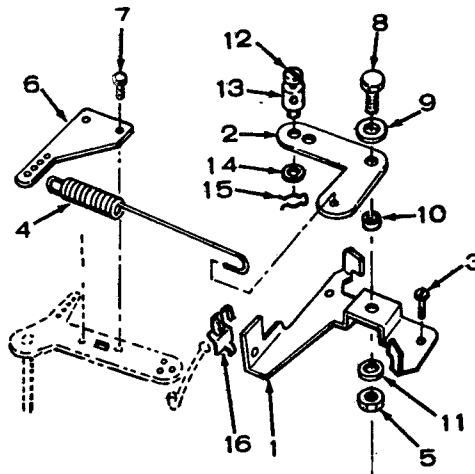


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1256	1	Stator (Includes Terminals and Connector Bodies)
2	332-2423	3	+Terminal Stator Leads
3	323-1257	2	Kit, Body Terminal Connector (Includes Parts Marked +)
5	815-0593	3	Screw, Machine - Hex Head - Self-Lock (#10-32 x 1-3/8")
5ps	191-2227		
6	191-1206	1	Regulator, Voltage
7	821-0007	1	Screw, Cap - Hex Washer Head (1/4-20 x 1/4")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
10	167-0188	1	Clip, Cable
11	323-0853	1	Body, Terminal Connector
12	323-1085	1	Body, Terminal Connector
13	323-0892	1	Body, Terminal Connector
14	323-0890	1	Body, Terminal Connector
15	332-2319	1	Clamp, Wire - Alternator Leads

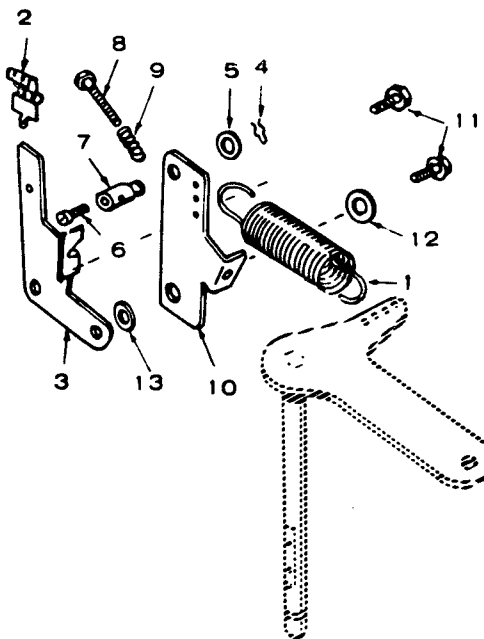
+ - Parts Included in 323-1257 Alternator Terminal Connector Body Kit.

Option 3
Governor Control - Variable Speed
(Front Pull)



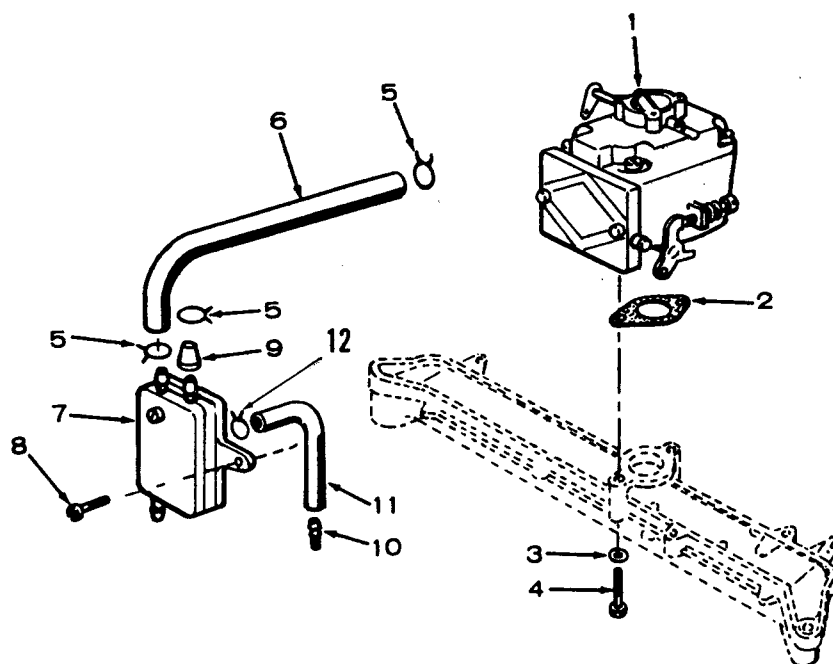
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-1368	1	Bracket, Governor Control	9	526-0021	1	Washer, Flat (1/4" Screw)
2	150-1366	1	Link, Governor Control	10	150-1269	1	Bushing, Governor Control
3	815-0439	3	Screw, Cap - Hex Head Locking (#8 x 1/2")	11	850-0040	1	Washer, Lock - Spring (1/4")
4	150-1369	1	Spring, Governor	12	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")
5	862-0001	1	Nut, Hex (1/4-20)	13	152-0155	1	Swivel, Cable - Throttle
6	150-1367	1	Adapter, Governor Arm	14	526-0006	1	Washer, Flat (15/64" ID x 1/2" OD x 3/64" Thk)
7	815-0181	2	Screw, Cap - Hex Head w/ET (#10-32 x 1/2")	15	516-0059	1	Pin, Cotter
8	800-0004	1	Screw, Cap - Hex Head (1/4-20 x 5/8")	16	518-0176	1	Clip, Cable - Throttle

Option 4
Governor Control Variable Speed
(Side Pull)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-1214	1	Spring, Governor	9	150-1398	1	Spring, Idle Setting
2	518-0176	1	Clip, Cable	10	150-1345	1	Arm, Governor Control
3	150-1725	1	Bracket, Cable		150-1576	1	Use With Swivel
4	516-0059	1	Pin, Cotter	11	815-0436	2	Use Without Swivel
5	526-0006	1	Washer, Flat (#12 Screw)				Screw, Self-Locking - Hex
6	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")	12	526-0021	2	Washer Head (1/4-20 x 1/2")
7	152-0155	1	Swivel, Cable Holding	13	150-1269	1	Washer, Flat (1/4" Screw)
8	815-0475	1	Screw, Machine - Hex Washer Head (#6-32 x 7/8")				Bushing, Control Arm

**Option 5
Fuel System
(Carburetor W/O Integral Fuel Pump)**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	142-0661	1	Carburetor Assembly - Gasoline (See Separate Page for Components) (Includes Parts Marked +)	7	149-1982	1	Pump, Fuel (See Separate Page for Components) (Includes Parts Marked *)
2	145-0438	1	+Gasket, Carburetor Mounting	8	815-0555	2	Screw, Tapping - Pan Head (10-24 x 5/8")
3	850-0040	2	Washer, Lock - Spring (1/4")	9	149-1321	1	+*Cap, Fuel Outlet
4	800-0023	2	Screw, Cap - Hex Head (1/4-20 x 1-3/8")	10	149-1299	1	Tube, Vacuum Port
5	503-0301	3	+*Clamp, Hose (7/16")	11	503-0707	1	Line, Impulse
6	503-0664	1	Hose, Fuel (1/4" ID x 11" Lg)	12	503-0731	1	Clamp, Wire (1/2")

* - Parts Included in 149-1982 Fuel Pump Kit.

+ - Parts Included in 142-0661 Carburetor Assembly Kit.

This exploded view diagram illustrates the assembly of a mechanical component, likely a carburetor or fuel valve. The parts are numbered 1 through 26. The assembly sequence is as follows:

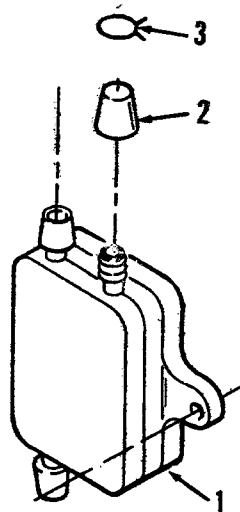
- Part 1** is the main body, which is assembled with **Part 2** (top cover) and **Part 14** (flange plate).
- Part 13** (a block) is positioned behind **Part 1**, with **Part 24** (a ring) and **Part 20** (a spring-loaded plunger) inserted into it.
- Part 21** (a pin) and **Part 6** (a small spring) are also associated with the plunger mechanism.
- Part 25** is a small component located near the bottom of **Part 1**.
- Part 3** (a bracket) is attached to the side of **Part 1** using **Part 9** (a pin) and **Part 7** (a plate).
- Part 4** (a pin) is used to secure the assembly from the side.
- Part 11** (a pin) and **Part 15** (a pin) are used to secure the front of the assembly.
- Part 12** is a plate that fits into the front of **Part 1**.
- Part 16** (a spring) and **Part 17** (a pin) are used to secure the bottom of the assembly.
- Part 18** (a pin) and **Part 23** (a spring) are used to secure the right side of the assembly.
- Part 22** (a pin) is used to secure the bottom right of the assembly.
- Part 8** (a spring) and **Part 10** (a pin) are used to secure the top right of the assembly.
- Part 5** (a pin) is used to secure the top left of the assembly.
- Part 19** (a plate) is attached to the top left of the assembly using **Part 9** (a pin).
- Part 26** is a box labeled "KIT" containing the parts.

**Option 6
Carburetor Components
(Without Integral Fuel Pump)
(142-0661)**

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	142-0661	1	Carburetor, Gasoline (Includes Mounting Gasket)	12	142-0559	1	*Gasket, Inlet Plate
	142-0591	1	Gasket Kit (Includes Parts Marked *)	13	142-0553	1	†Valve Assembly, Float
1		1	Body, Lower (Not Sold Separately)	14	142-0572	1	*Gasket, Carburetor Body
2		1	Body, Upper (Not Sold Separately)	15	149-1983	1	Plate, Inlet (Includes Cap and Clamp)
3	142-0534	1	†Shaft, Throttle	16	142-0544	1	Spring, Throttle Stop
4	142-0535	1	*O-Ring, Packing - Throttle Shaft	17	142-0282	1	†Spring, Idle Needle
5	142-0536	1	Shaft, Choke	18	142-0550	1	*O-Ring, Packing - Power Need
6	142-0554	1	Clip, Retaining - Float Valve	19	142-0546	1	Fly, Choke
7	142-0538	1	Fly, Throttle	20	146-0380	1	Float Assembly (Includes Assist Spring)
8	142-0064	1	Screw, Throttle Stop	21	142-0548	1	†Shaft, Float
9	142-0334	4	†Screw, Fly to Shaft	22	142-0016	1	†Needle, Idle
10	142-0539	4	Screw, Upper to Lower Body	23	142-0549	1	Needle Assembly, Power
11	142-0539	2	Screw, Inlet Plate	24	142-0523	1	*Gasket, Float Valve Seat
				25	146-0379	1	Spring, Float Assist
				26	142-0592	1	Repair Kit (Includes Parts Marked †)

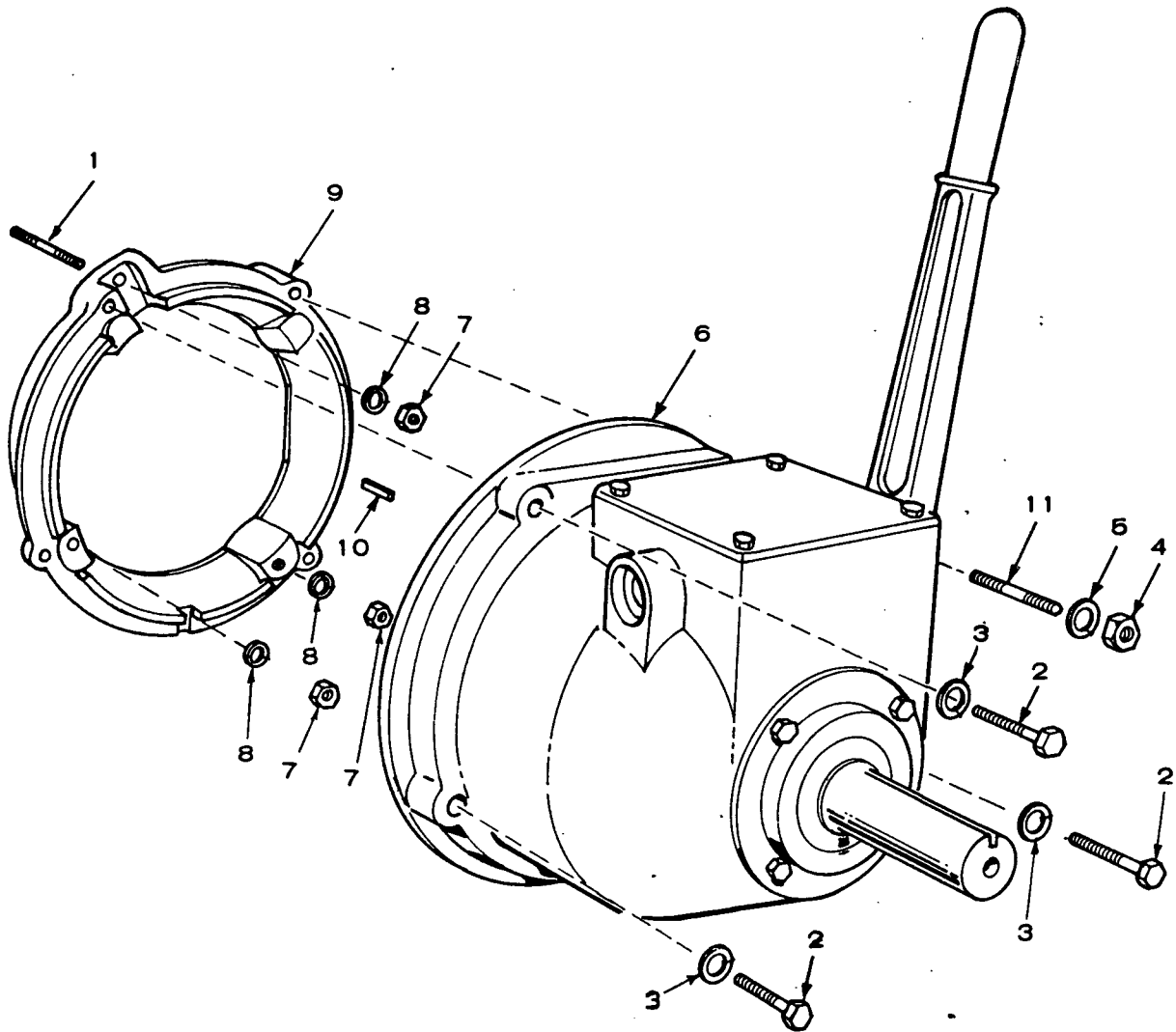
† - Parts Included in 142-0592 Repair Kit.
* - Parts Included in 142-0591 Gasket Kit.

Option 7
Fuel Puls



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-1982	1	Pump, Fuel - Vacuum, Pulse (Includes Cap and Clamp)	2	149-1321	1	Cap, Fuel Fitting
				3	503-0301	1	Clamp, Hose

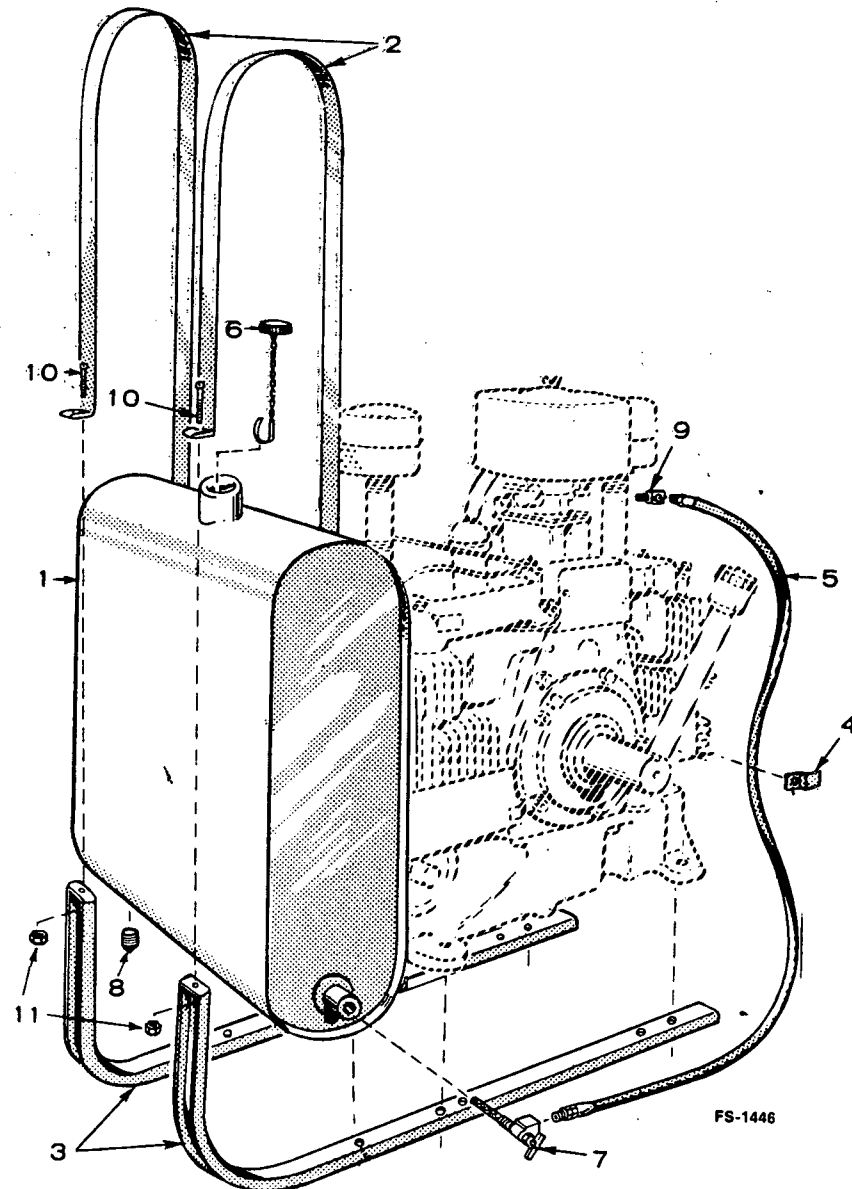
Option 8 Clutch



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	190-0289	1	Kit, Clutch Assembly (Includes All Parts Except Crankshaft)	5	850-0050	1	Washer, Lock - Spring (3/8
1	520-0739	3	Stud (3/8-24 x 3/8-16 x 3")	6	190-0288	1	*Clutch Assembly
2	800-0075	3	Screw, Cap - Hex Head (7/16-14 x 2")	7	104-0091	3	Nut, Hex - Hardened (3/8-2
3	850-0055	3	Washer, Lock - Spring (7/16")	8	850-0050	3	Washer, Lock - Spring (3/8
4	104-0091	1	Nut, Hex - Hardened (3/8-24)	9	190-0171	1	Adapter, Clutch
				10	515-0041	1	Key, Drive - Special
				11	520-0738	1	Stud (3/8-24 x 3/8-16 x 4"

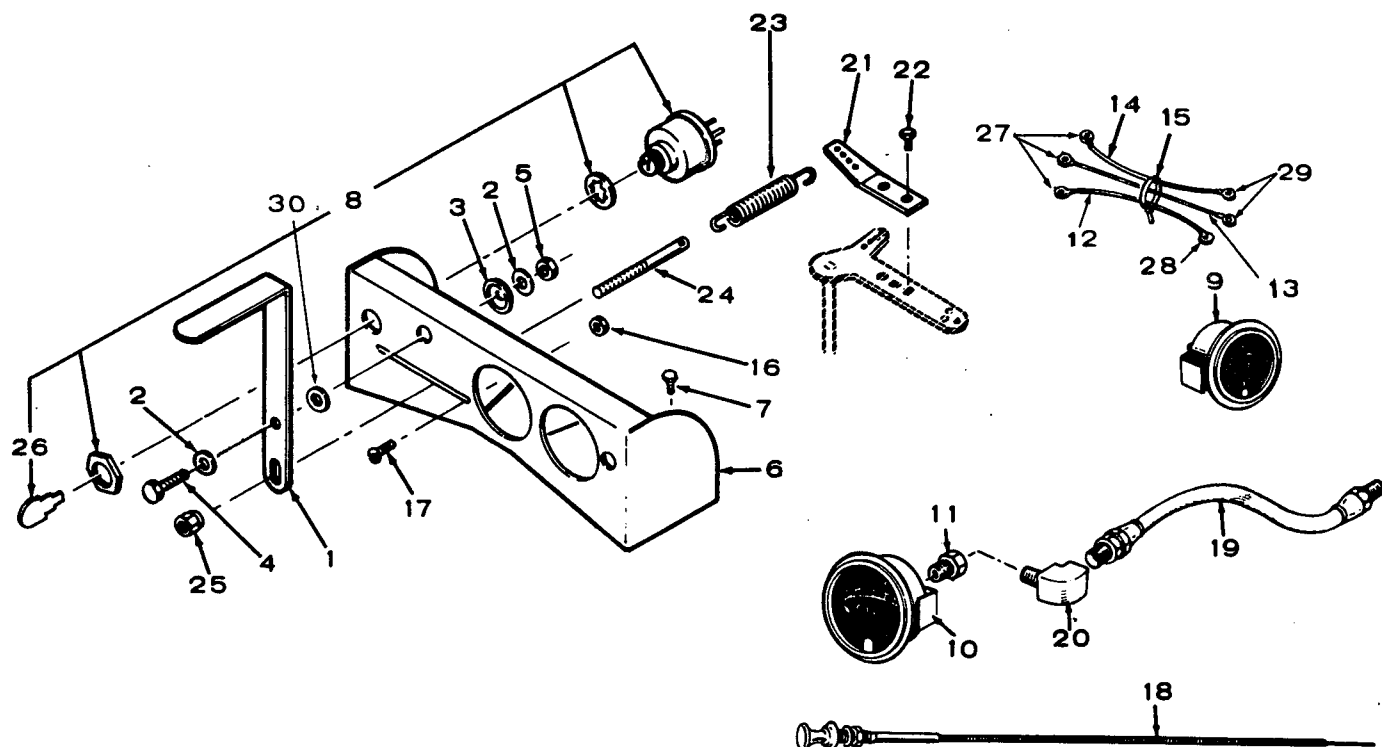
* - For Components, check nameplate and contact nearest Rockford Clutch Dealer.

Option 9
Fuel Tank (Side Mounted)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	159-0597	1	Kit, Fuel Tank	7	504-0013	1	Valve, Shut-off
1	159-0981	1	Tank, Fuel (Less Cap)	8	505-0057	1	Plug, Tank Drain
2	159-0596	2	Strap, Fuel Tank	9	502-0020	1	Elbow, Carburetor Inlet
3	159-0595	2	Bracket, Fuel Tank	10	813-0108	2	Screw, Machine - Round Head (#10-32 x 1-1/2")
4	134-0599	1	Clip, Fuel Line	11	870-0053	2	Nut, Hex (#10-32)
5	501-0008	1	Line, Fuel				
6	159-0020	1	Cap, Fuel Tank				

Option 10 Control (Engine)

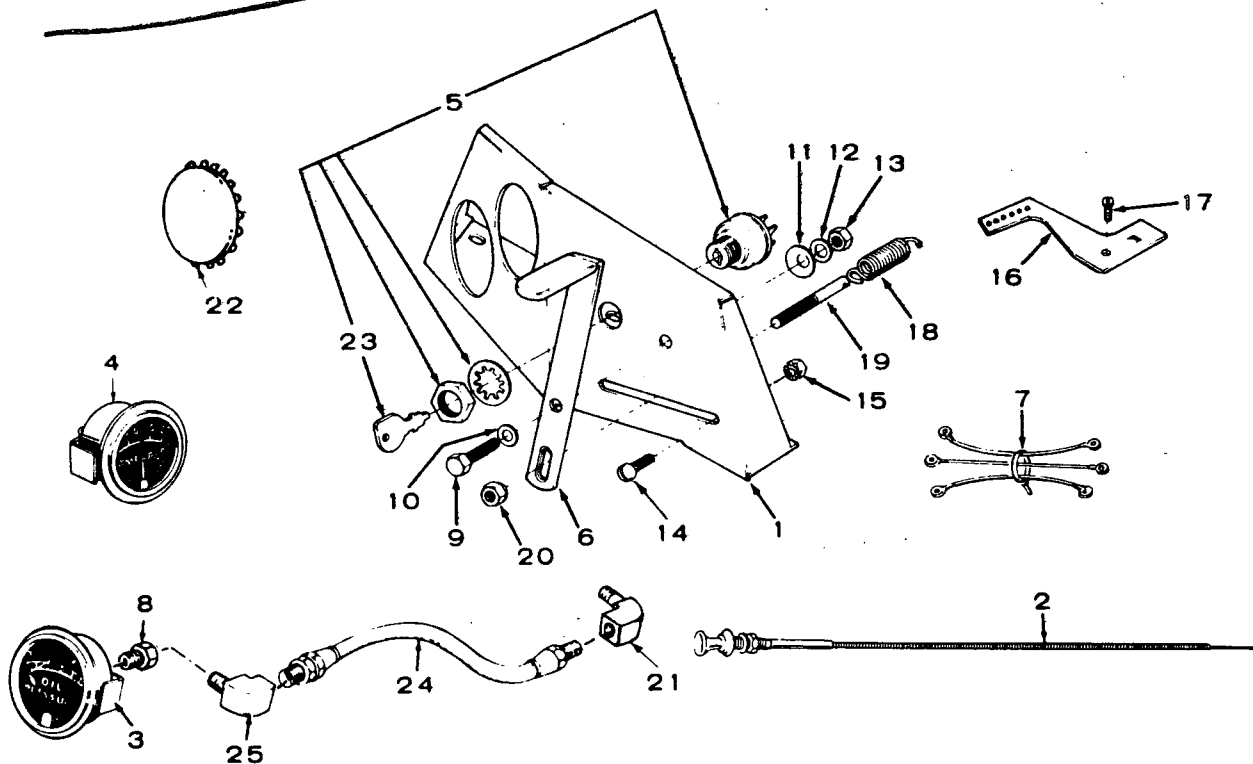


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	152-0198	1	Lever, Throttle Control
2	526-0015	2	Washer, Flat (1/4" Screw)
3	152-0041	2	Washer, Tension - Cup
4	800-0005	1	Screw, Cap - Hex Head (1/4-20 x 3/4")
5	870-0065	1	Nut, Lock - Hex (1/4-20)
6	301-4041	1	Panel, Control
7	821-0009	2	Screw, Lock - Hex (1/4-20 x 5/16")
8	308-0385	1	Switch and Key, Ignition
9	302-0060	1	Ammeter, DC (20-0-20)
10	193-0005	1	Gauge, Oil Pressure
11	502-0017	1	Connector, Inverted Female
12		1	Lead, Electrical - #16 Wire, 26" Lg.
13		1	Lead, Electrical - Switch to Coil - #16 Wire, 13" Lg.
14		1	Lead, Electrical - Switch to Ammeter - #16 Wire, 7" Lg.

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
15	332-0942	1	Tie, Cable
16	870-0131	2	Nut, Hex (10-32)
17	815-0199	2	Screw, Machine - Fillister Head (10-32 x 5/16")
18	153-0097	1	Cable, Choke
19	501-0004	1	Line, Oil - Flexible
20	502-0020	1	Elbow, Street (90°)
21	150-1544	1	Adapter, Governor Arm
22	815-0194	2	Screw, Tapping (10-32 x 3/8)
23	150-0098	1	Spring, Governor
24	150-0096	1	Stud, Speed Adjusting
25	150-0621	1	Nut, Special - Speed Adjusting Stud
26	308-0490	1	Key, Ignition Switch
27	332-0325	3	Terminal, Ring
28	332-1408	1	Terminal, Faston
29	332-1993	2	Terminal, Receptacle
30	526-0016	1	Washer, Flat (1/4" Screw)

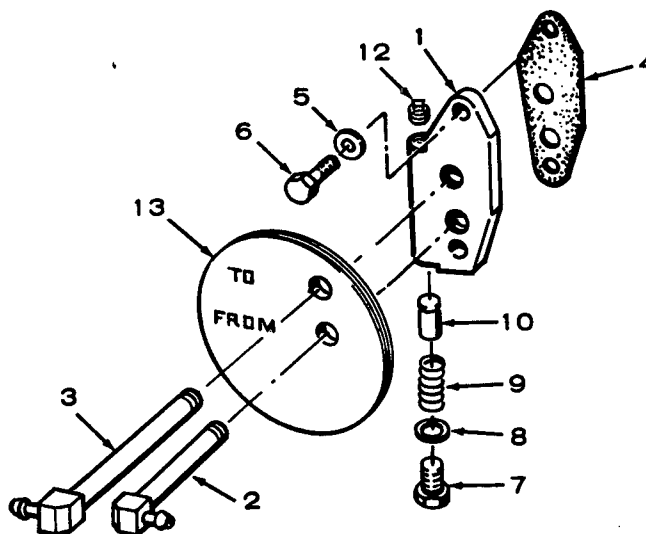
See 150-1716
Control Panel Kit

Option 10A
Control (Engine)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-5065	1	Panel, Control	15	870-0131	2	Nut, Hex with ET (#10-32)
2	153-0097	1	Cable, Choke	16	150-1749	1	Extension, Governor Arm
3	193-0005	1	Gauge, Oil Pressure	17	815-0181	1	Screw, Tapping - Hex Head with ET (#10-32 x 1/2")
4	302-0060	1	Ammeter (20-0-20)	18	150-1214	1	Spring, Governor
5	308-0385	1	Switch, Ignition	19	152-0177	1	Stud, Speed Adjusting
6	152-0224	1	Lever, Throttle Control	20	150-0621	1	Nut, Speed Adjusting Stud
7	338-1219	1	Harness, Wiring	21	502-0005	1	Elbow, Inverted - Female (90°)
8	502-0051	1	Coupling, Female	22	517-0009	AR	Plug, Dot Button
9	800-0005	1	Screw, Cap - Hex Head (1/4-20 x 3/4")	23	308-0490	1	Key, Ignition Switch
10	526-0016	1	Washer, Flat (1/4" Screw)	24	501-0009	1	Line, Oil - Flexible (36" Lg)
11	152-0041	1	Washer, Tension - Cup	25	502-0065	1	Elbow, -Inverted - Male (45°)
12	526-0015	2	Washer, Flat (1/4" Screw)		821-0010	4	Screw, Hex Washer Head - Self-Lock (Not Shown)
13	870-0065	1	Nut, Hex - Self Locking (1/4-20)				Mounts Control Panel to Blower Housing (1/4-20 x 1/2")
14	815-0199	2	Screw, Machine - Fillister Head (#10-32 x 5/16")				

Option 11 Oil Filter (Remote)

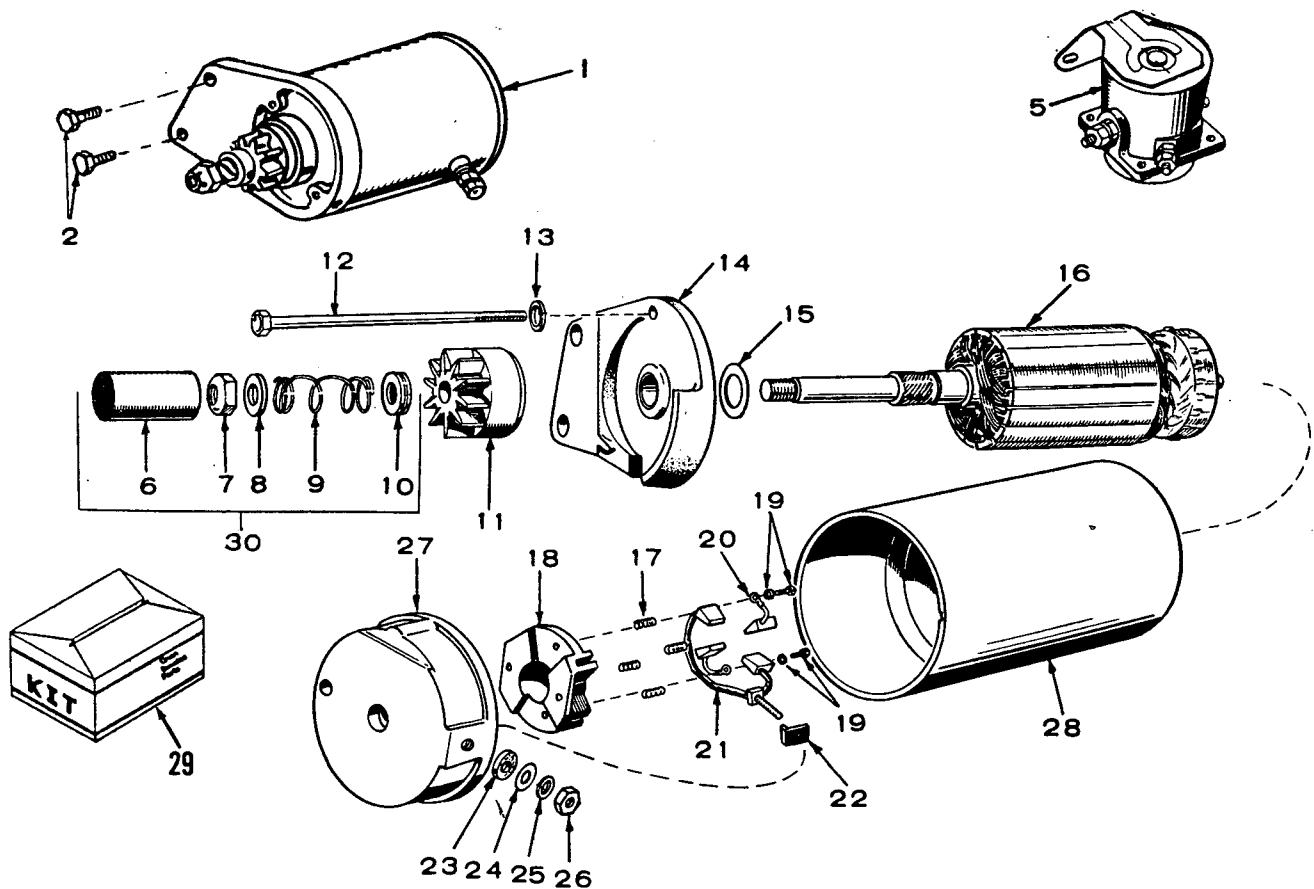


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	122-0369	1	Adapter, Remote Oil Filter
2	502-0580	1	Elbow, Adapter (90°)
3	502-0581	1	Elbow, Adapter (90°)
4	122-0375	1	Gasket, Adapter
5	526-0065	2	Washer, Flat - Copper (5/16" Screw)
6			Screw, Cap - Hex Head
	800-0031	2	Prior to 6/86 (5/16-18 x 1-1/2")
	800-0030	2	Begin 6/86 (5/16-18 x 1-1/4")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	801-0047	1	Screw, Cap - Hex Head (3/8-24 x 5/8")
8	526-0066	1	Washer, Flat - Copper (3/8" Screw)
9	120-0140	1	Spring, By-Pass Valve
10	120-0398	1	Valve, By-Pass
12	505-0057	1	Plug, Pipe - Square Head
13	508-0184	1	Grommet, Air Seal

NOTE: Hoses vary with each installation.
Purchase locally, hoses with a minimum pressure rating of 150 PSI (1035 kPa).

Option 12
Start Motor Components (Heavy Duty)
(191-1205)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1205	1	Motor, Starter (Complete)
2	815-0570	2	Screw, Cap - Hex Washer Head (5/16-18 x 1")
5	307-1031	1	Relay, Start Solenoid
6		1	xCover, Dust
7		1	xNut, Stop
8		1	xWasher, Stop Nut
9		1	xSpring, Anti-drift
10		1	xSpacer, Dust Cover
11	191-1156	1	Drive Assembly
12	191-1157	2	Screw, Hex Cap
13	850-0040	2	Washer, Lock
14	191-1007	1	Cap Assembly, Drive End
15	191-1038	1	Washer, Armature Thrust
16	191-1154	1	Armature
17		4	†*Spring, Brush
18		1	†Brush Holder
19		2	†Screw and Lockwasher

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
20	§	2	†*Brush, Ground
21	§	1	†*Stud and Brush Assembly, Input
22	§	1	†Bushing, Insulation - Input Stud
23	§	1	†Washer, Insulation - Input Stud
24	§	1	†Washer, Flat - Input Stud
25	§	1	†Washer, Lock - Input Stud
26	§	1	†Nut, Securing - Input Stud
27	191-1155	1	Cap Assembly, Commutator (Includes Parts Marked †)
28	§	1	Housing, Starter Motor
29	191-1222	1	Repair Kit, Brush, Spring and Stud (Includes Parts Marked *)
30	191-1359	1	Dust Cover Assembly (Includes Parts Marked x)

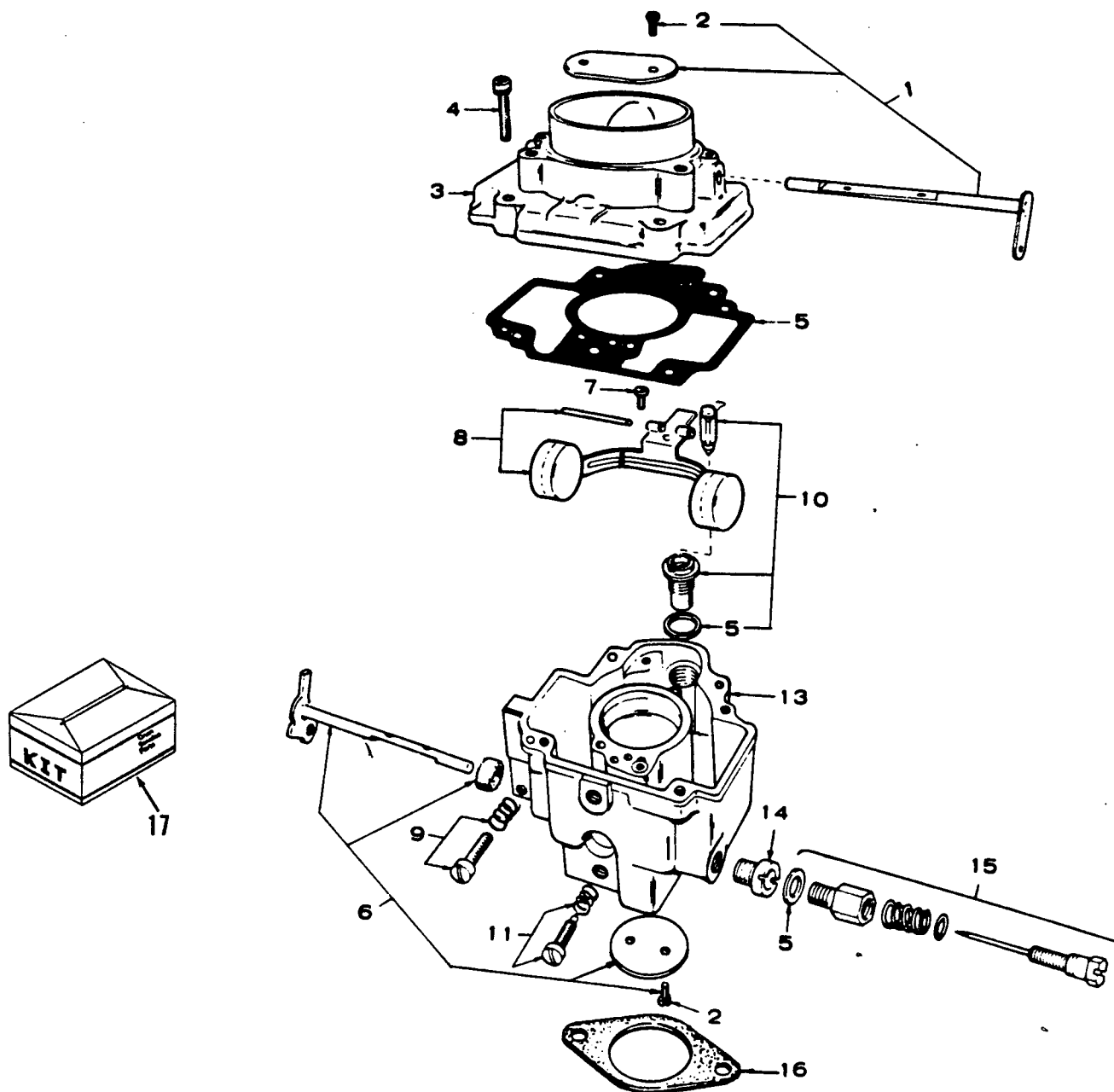
† - Included in the 191-1155 Cap Assembly.

* - Included in the 191-1222 Brush, Spring and Stud Kit.

x - Included in 191-1359 Dust Cover Assembly.

§ - Not Sold Separately.

Option 13
Carburetor Components
(Adjustable Main Jet)



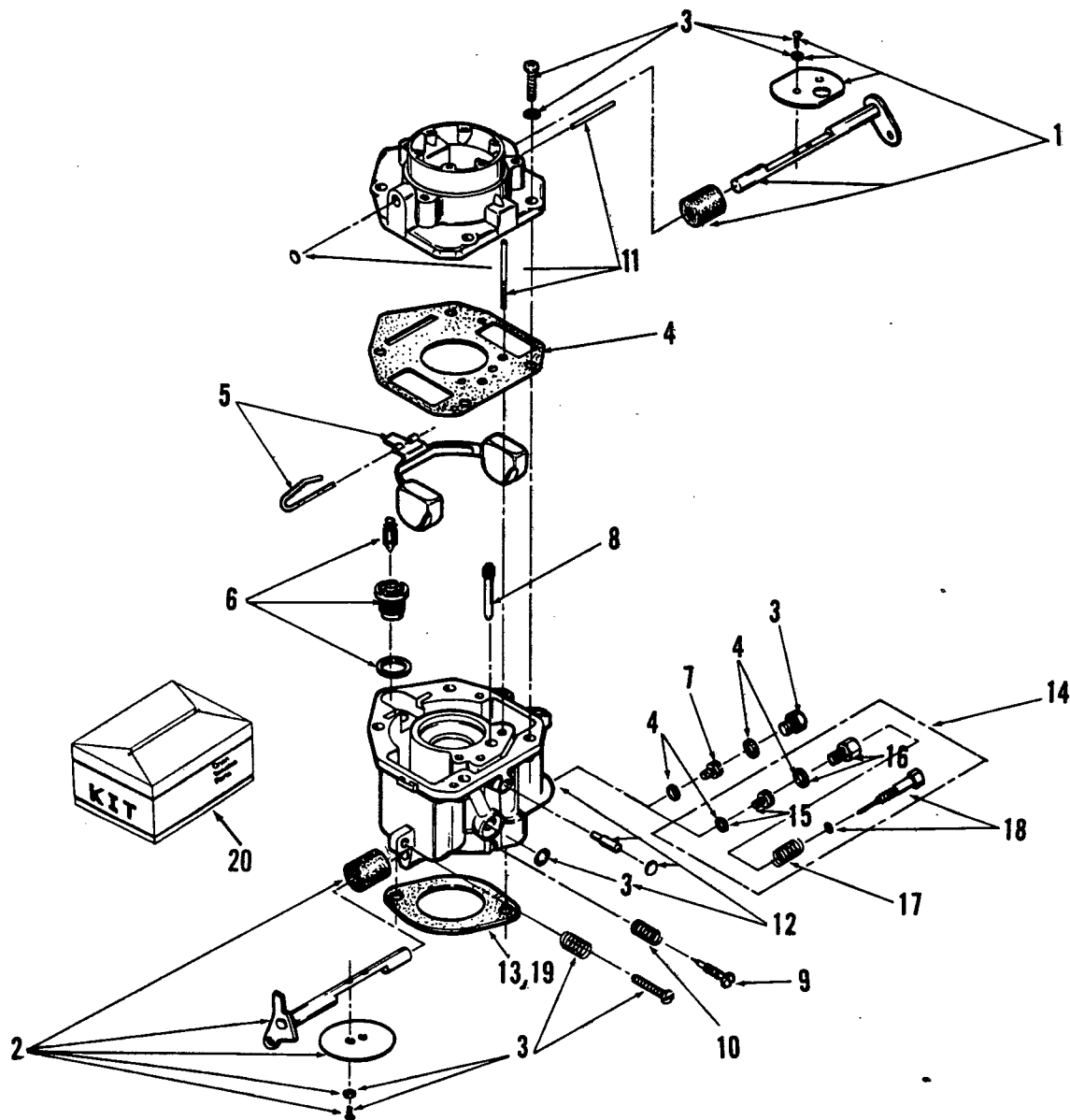
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	146-0311	1	Carburetor, Complete (Includes Mounting Gasket)
1	146-0281	1	Choke Shaft Package
2	146-0142	4	Screw, Valve Mounting
3		1	Intake, Air (Not Sold Separately)
4	146-0247	4	Screw, Body to Intake
5	146-0220	1	Gasket Kit
6	146-0259	1	Throttle Shaft Package
7	146-0222	1	*Screw, Lever Pin
8	146-0262	1	Float Package

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
9	146-0261	1	Idle Speed Adjusting Screw Package
10	146-0289	1	*Valve and Seat Package
11	146-0209	1	*Idle Needle Package
13		1	Body (Not Sold Separately)
14	146-0238	1	Jet Power
15	146-0282	1	*Power Needle Package (var.)
16	154-0733	1	Gasket, Carburetor Mounting
17	146-0292	1	Kit, Repair (Includes Parts Marked *)

* - Parts Included in 146-0292 Repair Kit.

down draft
ca

Option 13A
Carburetor Components
(Fixed Main Jet)

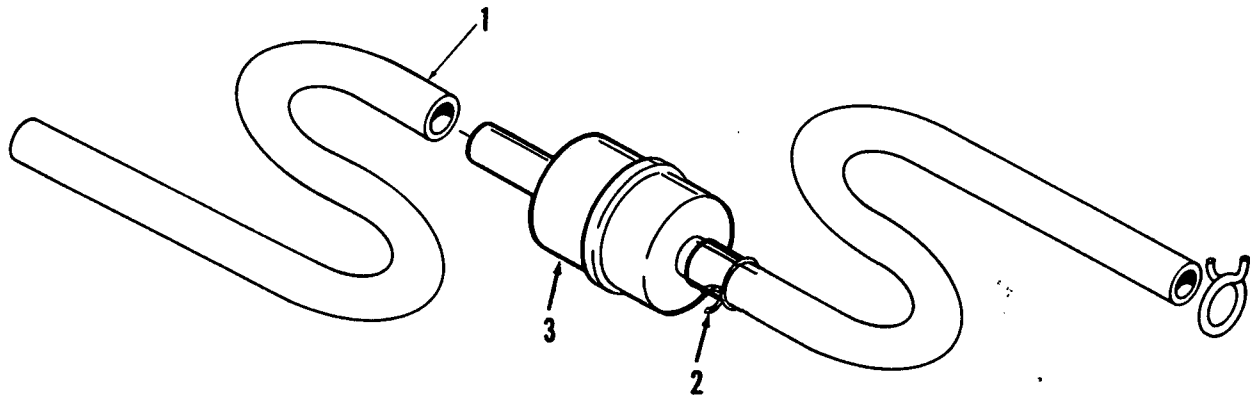


FS-1440

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	146-0381	1	Carburetor, Complete (Includes Mounting Gasket)	12		1	Body (Not Sold Separately)
1	146-0377	1	Choke, Shaft Kit	13	154-0733	1	*Gasket, Carburetor Mounting
2	146-0324	1	Throttle Shaft Kit	14	146-0327	1	*Variable Jet Kit - Optional (High Altitude Application) (Includes Parts Marked *)
3	146-0322	1	*Screw and Plug Kit	15	146-0343	1	*Power Jet, Variable (Includes Gasket)
4	146-0326	1	*Gasket Kit	16	146-0340	1	*Retainer, Power Needle (Includes Gasket)
5	146-0325	1	Float Kit	17	146-0341	1	*Spring, Power Needle
6	146-0329	1	*Valve and Seat Kit	18	146-0342	1	*Needle, Complete - Power
7	146-0334	1	Jet, Power	19	145-0438	1	*Gasket, Carburetor Mounting
8	146-0337	1	Jet, Idle	20	146-0356	1	Kit, Repair (Includes Parts Marked *)
9	146-0335	1	*Needle, Idle Adjusting				
10	146-0331	1	*Spring, Idle Adjusting Needle				
11		1	Intake, Air (Not Sold Separately)				

* - Parts Included in 146-0356 Repair Kit.
* - Parts Included in 146-0327 Variable Jet Kit.

Option 14 Fuel Line Filter

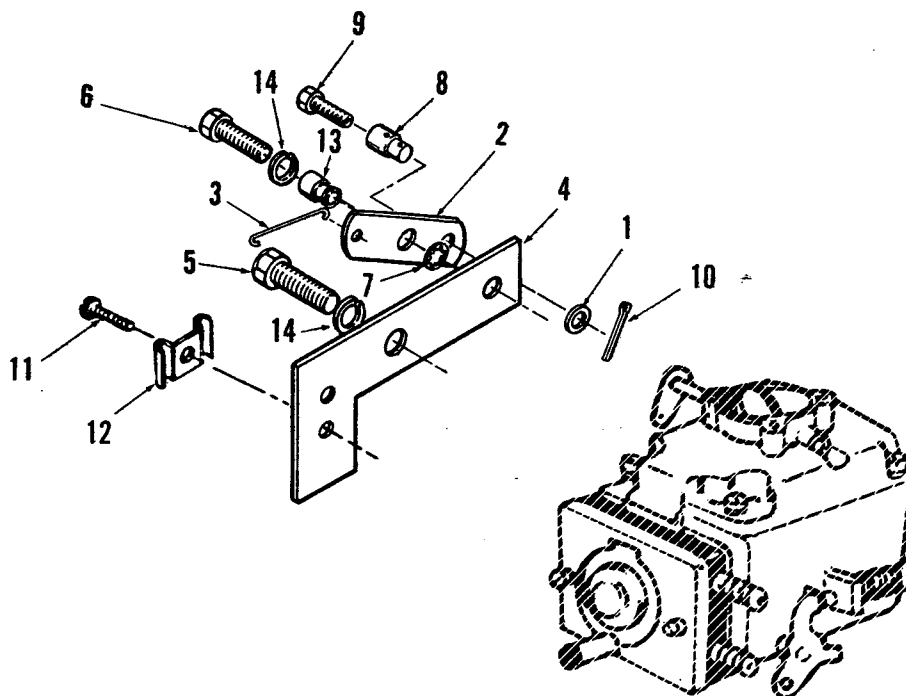


FS-1522

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0707	2	Hose (1/4" ID x 7/16" OD x 12" Long)	2	503-0731	3	Clamp, Hose (7/16")
				3	149-2005	1	Filter, Fuel

2264-01

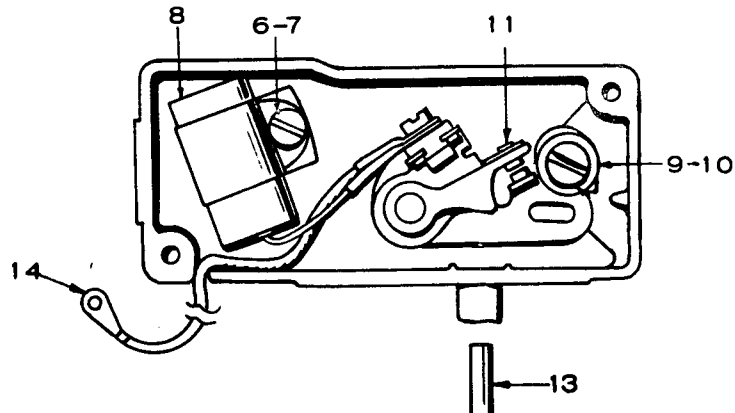
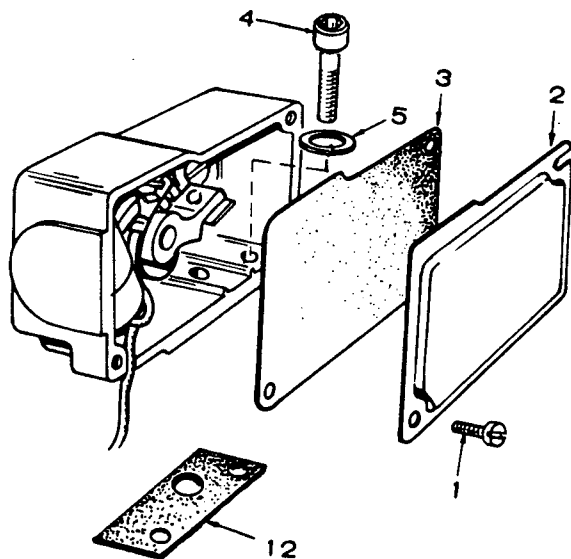
Option 15
Choke Control (Front Pull)



FS-1131-1

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	526-0140	1	Washer, Flat	7	854-0010	1	Washer, Lock - IT (#10)
	526-0108	2	Use with Swivel 152-0155				Use with Swivel 152-0155
			Use with Choke Lever 153-0501	8	152-0155	1	Swivel, Choke Lever
2	153-0523	1	Lever, Choke	9	815-0104	1	Screw, Machine - Fillister Head (#8-32 x .31")
	153-0501	1	Use with Swivel 152-0155	10	516-0059	1	Pin, Cotter
			Use without Swivel 152-0155	11	815-0359	1	Screw, Tapping - Slotted Hex Washer Head (#10-32 x 7/8")
3	153-0500	1	Link, Choke	12	153-0514	1	Clip, Choke Cable
4	153-0524	1	Bracket, Choke Cable	13	153-0502	1	Bushing, Flanged - Use with Choke Lever 153-0501
5	812-0099	1	Screw, Round Head (10-24 x 7/16")	14	850-0030	2	Washer, Lock (#10) - Use with Choke Lever 153-0501
6			Screw				
	815-0480	1	Pan Head (10-32 x .34") - Use with Choke Lever 153-0523				
	812-0100	1	Round Head (10-24 x 1/2") - Use with Choke Lever 153-0501				

Option 16
Ignition Breaker Box (Side Adjustable)

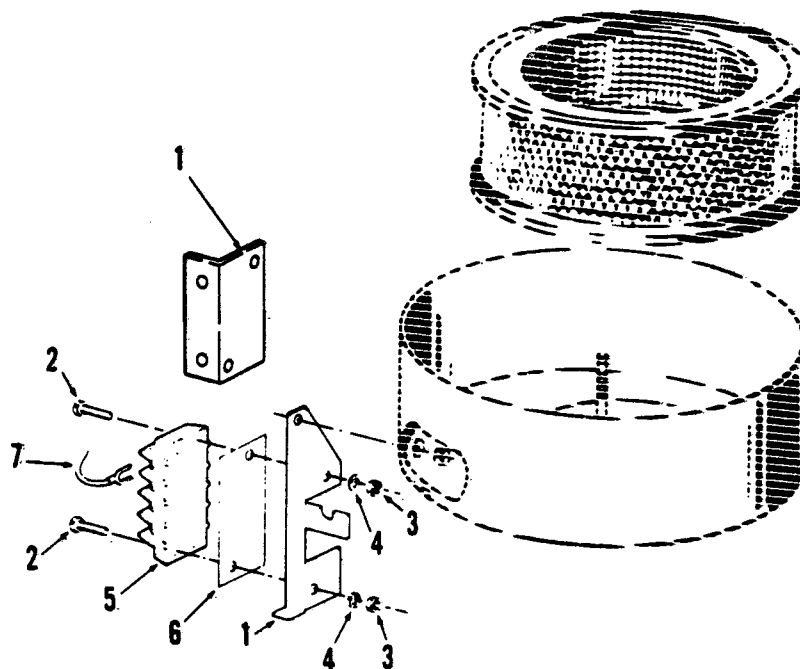


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	160-1158	1	Box Assembly, Breaker (Includes Parts Marked *)
1	815-0358	2	*Screw, Tapping - Hex Head, Slotted (#8-32 x 5/16")
2	160-1149	1	*Cover, Breaker Box
3	160-1148	1	*Gasket, Cover
4	802-0034	2	*Screw, Cap - Socket Head (1/4-20 x 3/4")
5	850-0038	2	*Washer, Lock - Spring (1/4")
6	815-0403	1	*Screw, Tapping - Pan Head (#8-32 x 5/16")
7	850-0025	1	*Washer, Lock - Spring (#8)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	312-0069	1	*Condenser, Ignition
9	870-0221	1	*Nut, Hex with External Tooth Lockwasher (#8-32)
10	815-0405	1	*Screw, Machine - Pan Head, Cross-Recessed (#8-32 x 1/2)
11	160-1154	1	*Point Set, Breaker
12	160-1150	1	*Gasket
13	160-1151	1	Plunger, Breaker Points
14	336-2378	1	Lead, Breaker Box to Coil
	160-1161	1	Tune-Up Kit (Includes Points and Condenser)

* - Parts Included in 160-1158 Breaker Box Assembly

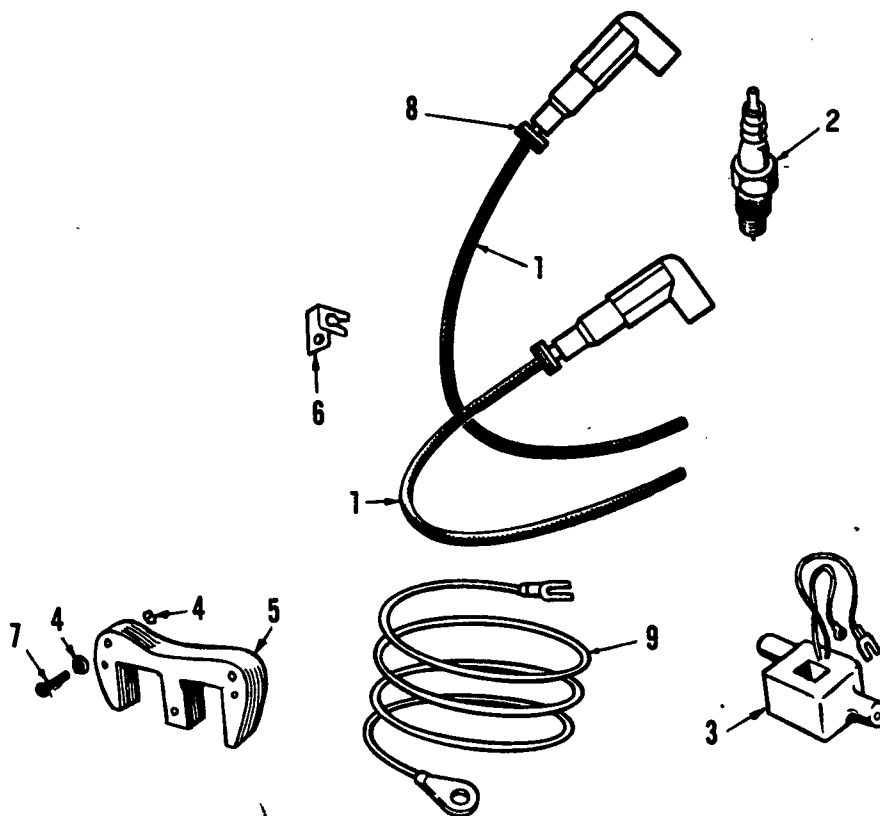
Option 7 Support and Terminal Block Assembly



ES-1481

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-1644	1	Support, Air Cleaner	4	853-0005	2	Washer, Lock - ET (#8)
	301-5936	1	Units with Air Cleaner Housing	5	332-0537	1	Block Terminal (4 Place)
				6	332-2208	1	Strip, Marker
2	812-0081	2	Units without Air Cleaner Housing	7	336-4385	1	Lead Assembly
					334-0028	1	Alternator Ignition
2	812-0081	2	Screw, Machine - Round Head (#8-32 x 5/8")				
3	860-0008	2	Nut, Hex (#8-32)				

Option 18 Ignition (Magneto)

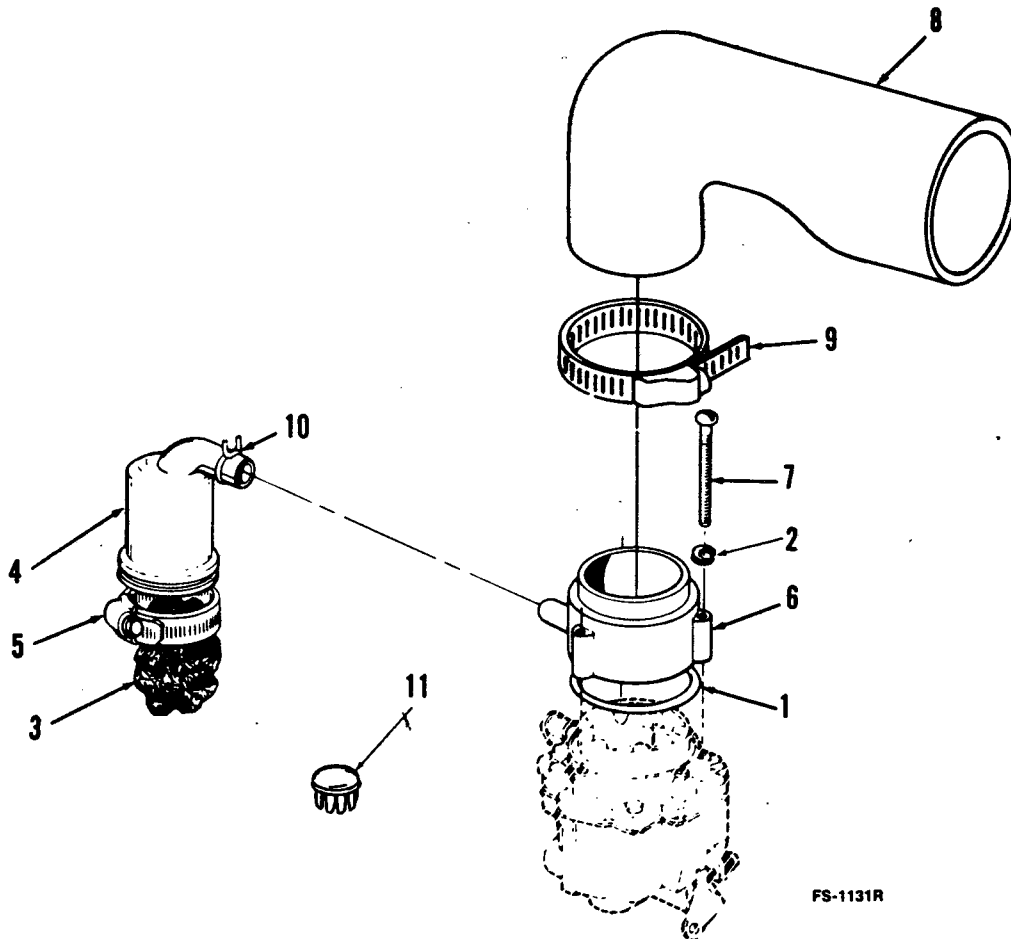


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	160-1306	1	Stator Assembly (Includes Parts Marked *)
1	167-1595	2	Cable, Spark Plug R.H.
2	167-0298	2	Spark Plug
3	160-1305	1	*Coil, Magneto Stator
4	526-0015	2	Washer, Flat - Stator
	526-0184	2	1/4" Screw
		2	17/64 ID x 5/8 OD x .1345" Thk)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	160-0749	1	*Pole Shoe, Stator - Magneto
6	167-0188	4	Clip, Spark Plug Cable
7	815-0259	2	Screw, Hex Cap
8	508-0095	2	Grommet, Rubber
9	336-8466	1	Lead, Magneto to Ignition Breaker

* - Parts Included in the 160-1306 Stator Assembly

Option 19 Remote Air Cleaner Adapter

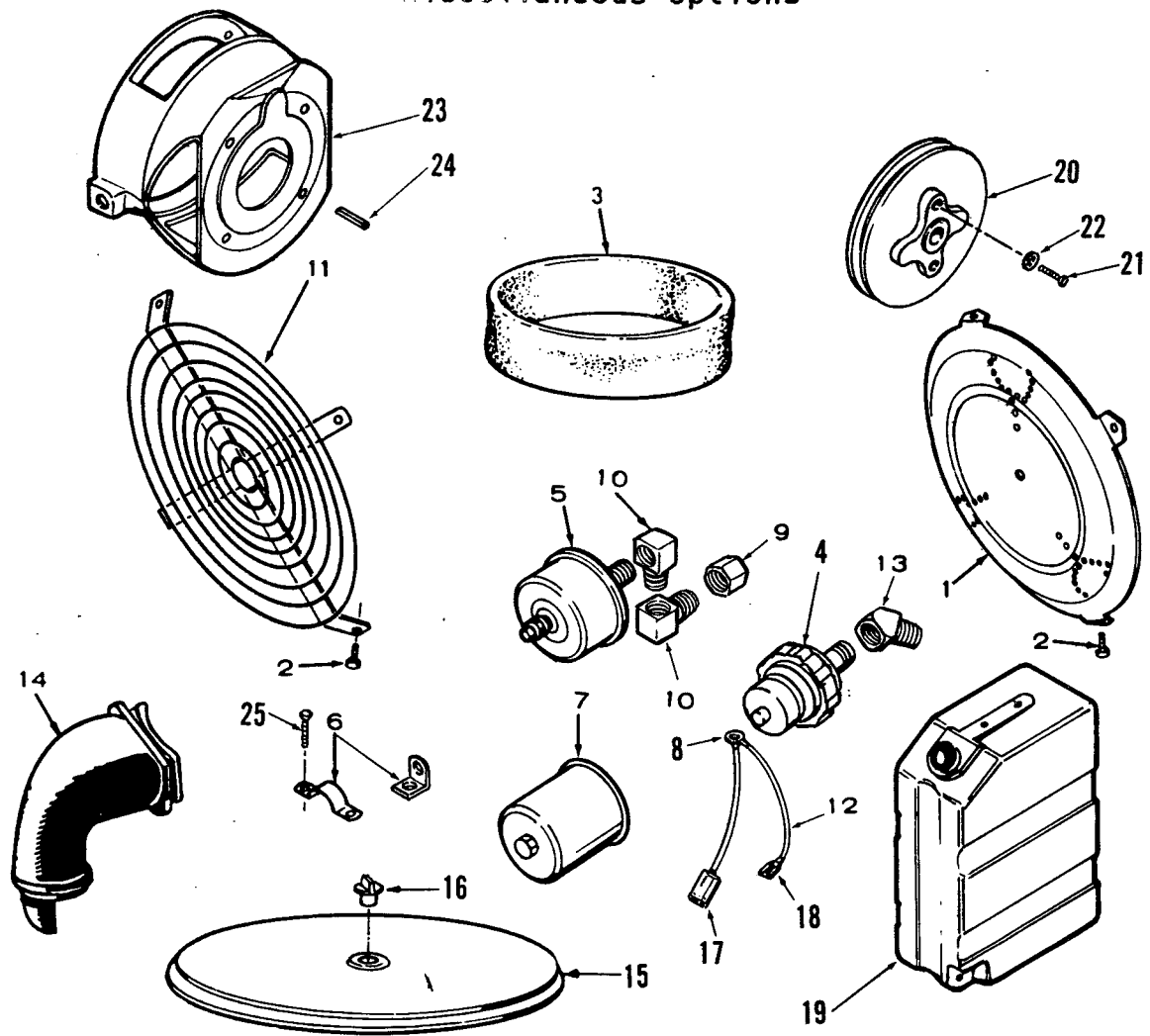


FS-1131R

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	140-1915	1	Kit, Remote Air Cleaner Adapter (Includes Parts Marked *)	6	140-1714	1	*Adapter, Carburetor Air Intake
1	509-0145	1	Seal, O-Ring	7	813-0106	3	*Screw, Machine - Round Head (#10-32 x 1-1/8")
2	850-0030	3	*Washer, Lock - Spring (#10)	8	140-1428	1	*Elbow, Air Intake
3	123-1417	1	*Filter, Breather Tube	9	503-0274	1	*Clamp, Hose - Air Intake
4	123-1539	1	*Tube, Crankcase Breather	10	503-0171	1	*Clamp, Hose
5	503-0107	1	Clamp, Breather Tube	11	517-0151	1	*Plug, Dot Button - Blower Housing Air Hole

* - Parts Included in 140-1915 Remote Air Cleaner Adapter Kit.

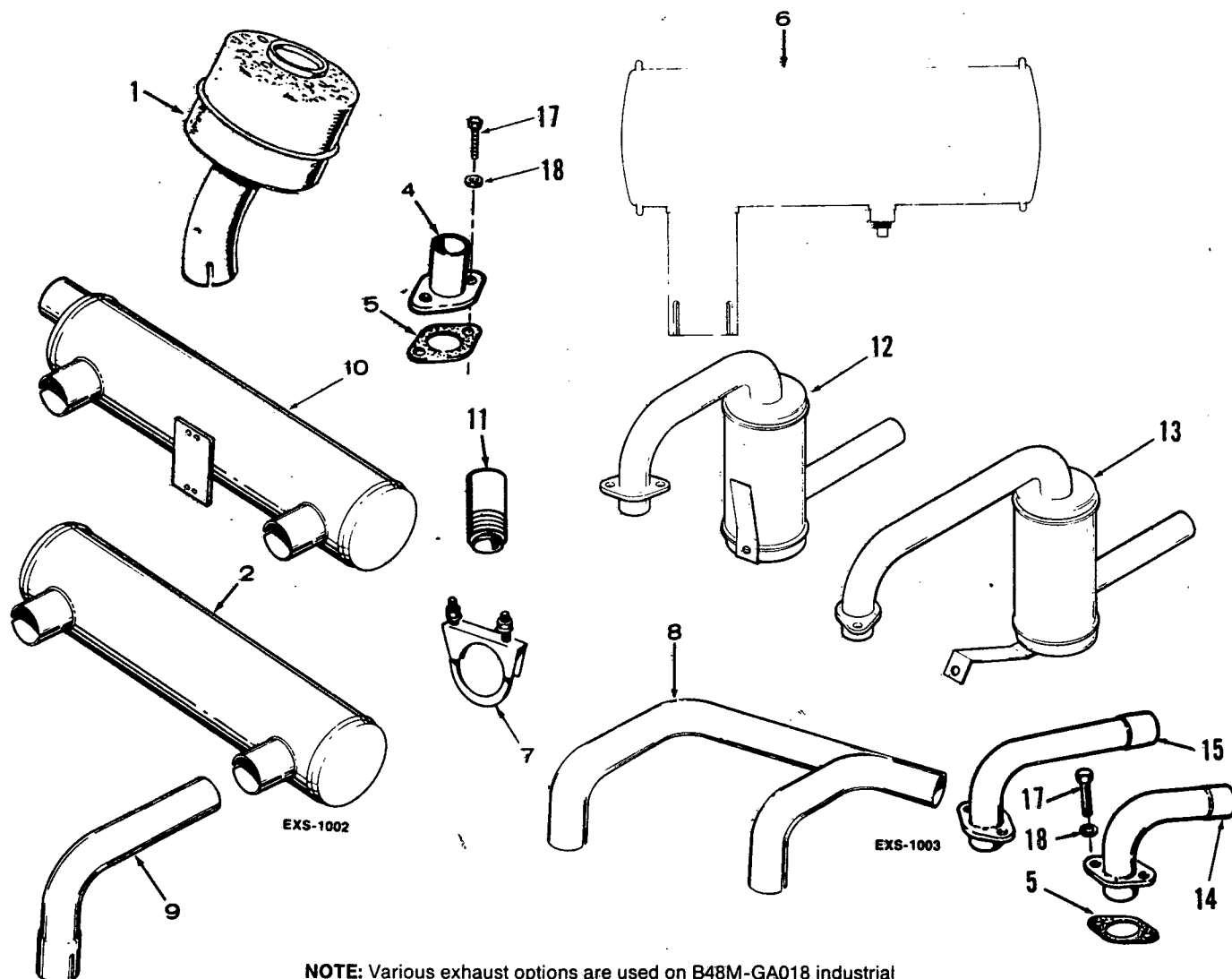
Miscellaneous Options



Miscellaneous Options

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	134-3213	1	Guard, Flywheel - Stationary	13	502-0053	1	Elbow, Street - 45°
2	815-0378	4	Screw, Tapping - Hex Head (#14 x 1/2")	14	140-1169	1	Tube, Air Intake with Debris Lip
3	140-1218	1	Wrapper, Filter Element - Dry Type	15	140-1747	1	Cover, Air Cleaner - Moisture Proof
4			Switch, Low Oil Pressure	16	140-1750	1	Knob, Air Cleaner - Moisture Proof
	309-0237	1	Close at 8-10 PSI at Lowering Pressure	17	332-1408	1	Terminal, Receptacle
	309-0510	1	Open at 4.5-7.5 PSI on Increasing Pressure	18	332-1279	1	Terminal, Spade
5	193-0108	1	Sender, Electric Oil Pressure Gauge	19	159-1150	1	Tank, Fuel - Plastic (3.5 Gallon Capacity)
6			Bracket, Lifting	20	191-1210	1	Pulley, Drive - Alternator
	403-1490	2	One Mounting Hole	21	800-0032	2	Screw, Hex Head Cap (5/16-18 x 1-3/4")
	403-1021	2	Two Mounting Holes	22	850-0045	2	Washer, Lock (5/16")
7	122-0406	1	Filter, Oil (With Hex Nut)	23	190-0266	1	Housing, Clutch - Use with Warner 3-speed
8	332-0152	1	Terminal, Ring	24	515-0146	1	Key, Drive - Units with Clutch
9	502-0175	1	Adapter, Pipe	25			Screw, Cap - Hex Head (5/16-18 x 2-1/4")
10	502-0020	2	Elbow, Street - 90°		800-0034	2	One Mounting Hole Lifting Bracket
11			Guard, Flywheel - Stationary (Wire Type)		800-0034	4	Two Mounting Holes Lifting Bracket
	134-3527	1	Use without PTO				
	134-4134	1	Use with PTO				
12		1	Lead Assembly, Low Oil Pressure Switch - #16 Wire, 12" Lg (2) or 15" Lg (1)				

Miscellaneous Exhaust Options



NOTE: Various exhaust options are used on B48M-GA018 industrial engines. Select according to illustration.

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	155-1570	2	Muffler, Exhaust	9		1	Pipe, Exhaust (90°)
2	155-1692	1	Muffler, Exhaust		155-1703	1	Left
4	154-1958	2	Adapter, Exhaust (Flange Type)		155-1704	1	Right
5	154-1725	2	Gasket, Exhaust Adapter	10	155-1848	1	Muffler, Crossover
6			Muffler, Exhaust - Raygun	11		2	Nipple, Half - Exhaust
	155-1697	2	With Spark Arrestor		505-0775	2	1" x 1-13/16"
	155-1693	2	Without Spark Arrestor		505-0755	2	1" x 3"
7			Clamp, Muffler		155-1381	2	1" x 3" (Includes Insert)
	155-1256	2	1-1/4"	12	155-1722	1	Muffler - RH
	155-1257	2	1-3/8"	13	155-1723	1	Muffler - LH
8			Manifold, Exhaust - Crossover	14	154-2128	1	Adapter, Exhaust - Right (1-1/4" OD Outlet)
	154-1986	1	Left Rear Outlet	15	154-2129	1	Adapter, Exhaust - Left (1-1/4" OD Outlet)
	154-1669	1	Left Front Outlet	17	800-0026	4	Screw, Cap - Hex Head (5/16-18" x 3/4")
	154-1986	1	Right Front Outlet	18	850-0045	4	Washer, Lock - Spring (5/16")
	154-1669	1	Right Rear Outlet				

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503-0301	15	518-0004	10	800-0075	31	821-0014	9
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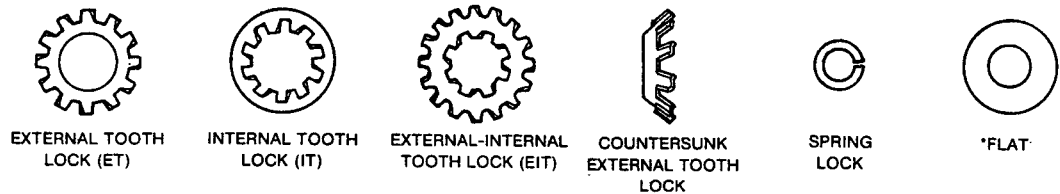
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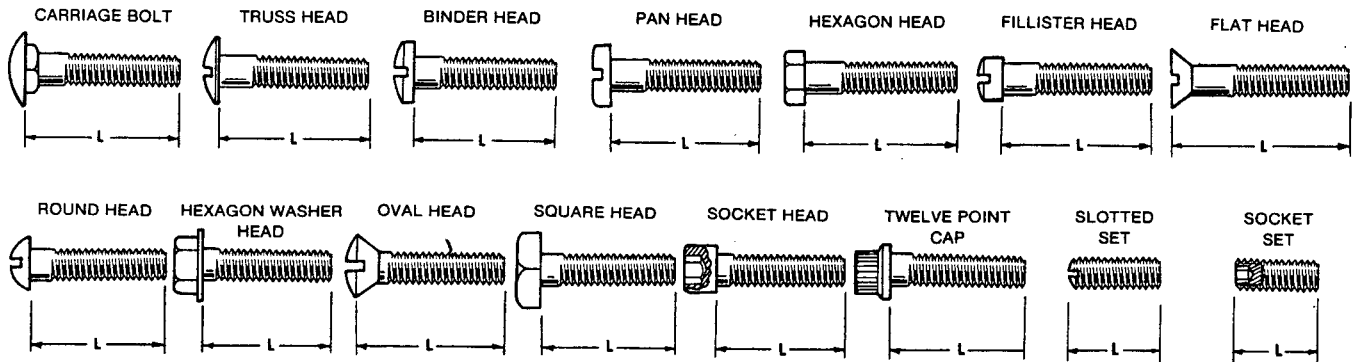
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts descriptive indicates differently. All dimensions are in inches.

WASHER TYPES



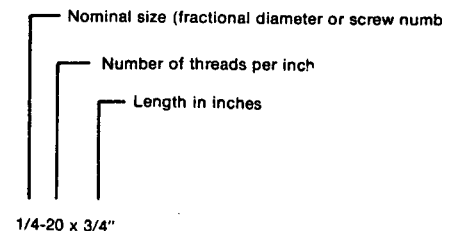
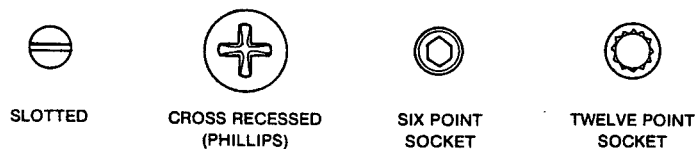
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES

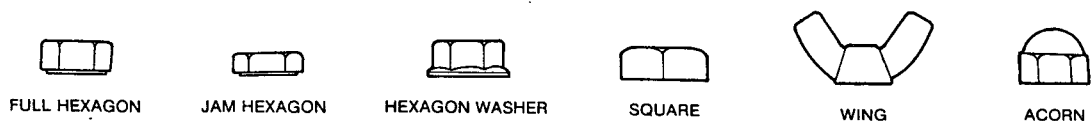


L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES





Onan Corporation

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